

DECEMBER, 1958



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EDITORIAL



NO SANTA CLAUS?

Nearly 60 years ago the Editor of the "New York Sun" received an unusual letter. It came from a small child, Victoria O'Hanlon, and commenced:

"Dear Editor,
"I am eight years old, some of my friends say there is no Santa Claus. Please tell me the truth."

The "Answer to Virginia" as the editorial published in the "New York Sun" was called has become justly famous.

Although basically directed to a child, it contained a theme which is universal in its application.

"The most real things in the world are those that neither children nor men can see. You can tear apart a baby's rattle and see what makes the noise inside, but there is a veil covering the unseen world which not the strongest man nor even the united strength of all the strongest men that ever lived could tear apart. Only faith, fancy, poetry, love, romance can push aside that curtain and view the supernatural beauty beyond."

How then are these "most real things" co-jointed to Christmas?

Down the annals of time, man has mingled all of them with the seasonal festivities and for the want of a better name called the result, the Spirit of Christmas, the Spirit of Goodwill

among men. It has mattered little whether the conveyor of tidings has been Santa Claus, Father Christmas, Father Frost, St. Nicholas or any other, the theme has ever been the same—"Peace on Earth, Goodwill among Men." And following the lead, man in his humble way has echoed the refrain.

But what of the Radio Amateur? Perhaps he above all is especially privileged. Because his hobby knows not the bounds of physical or man-made barriers, his words, with their message reach the remotest spots of this earth. With his greeting, the Amateur conveys a sincere wish that those who hear him will delight in the Christmas Present and prosper in Christmases Yet To Come. With words like these echoing from the void others will feel that they are included in the occasion and share in its joys. They are being caught by the intangible bond of friendship, that most real thing in the world, that binds men into a universal whole.

To all then, both within our Institute and without, SEASON'S GREETINGS. May this festive season be all that you wish and may your future be prosperous.

To everyone everywhere—

A Merry Christmas.

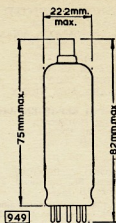
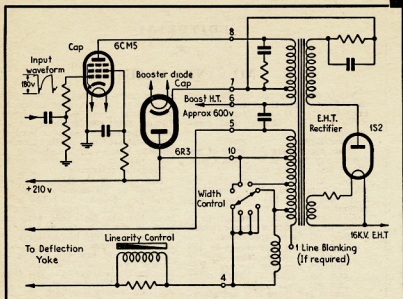
FEDERAL EXECUTIVE

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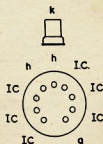
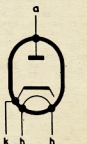
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QUARTZ CRYSTAL FILTERS

Including Part Six of Modifying the AR7 Receiver

SECTION ONE

BY G. M. BOWEN,* VK5XU

IN order to align a crystal filter successfully some understanding of the basic principles involved is required, besides an enthusiasm and an abundance of patience. So for the sake of those younger Amateurs, who are usually much brighter than we are anyhow, a quick survey of the main points will be given.

It is not generally known that Pierre Curie was one of the first scientists to extensively study the "piezo-electric effect of quartz crystals. He was able to show that the mechanical stressing of a piece of ground quartz crystal produced voltages of opposite polarity at the parallel faces.

These voltages were greatest when the slice was cut parallel to any of the crystallographic axes, the X, Y and Z axes as they are called. Modern BT, GT, etc., cuts are merely combinations of these three axes designed to reduce the effects of such poor properties as variation of frequency with temperature, discontinuity of oscillation, etc.

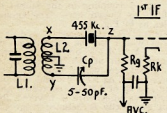


Fig. 1. L2 - Low Z winding.

Conversely, it was shown that if a voltage was applied to electrodes on the faces, distortion of the mass took place. Voltage pulses of short duration produced a damped mechanical oscillation with subsequent oscillating voltage outputs across the pulsing circuit. The frequency of these depended upon the mass of the crystal and its various dimensions and was relatively free from external circuitry.

Finally early in the century, this resonant oscillation output voltage was applied to the control of radio frequency oscillators.

In 1920, we find the first application of the "filter action" of a quartz crystal to improving the selectivity of radio frequency receivers and from that date until World War II, most of the basic circuits now in use were devised by the research engineers of the manufacturing firms marketing communication receivers.

The modern parallel to this type of filter is the magneto-mechanical method with its nickel-disc magnetostriction oscillating bar, incorporated in the Collins "mechanical filter." This transfers the energy from a magneto field

whereas the quartz crystal filter transfers it from an electric field.

Basically, the vibrating quartz crystal corresponds to a series resonant circuit with an exceedingly high Q, due to its high elastic property. The electrical equivalent of its mass is the inductance, L; of its elasticity, the capacitance, C; of the heat dissipated in the dielectric and friction of the molecules, the resistance R, of a typical series L.C.R. circuit.

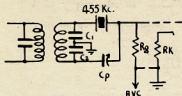


Fig. 2. C1 C2 equal.

Hence, the less the motion is damped, the higher will be the Q for a given quartz slab. For best results then, the slab should be freely suspended in a vacuum, but since the former is impossible, quartz holders, when high frequency stability is required are made so that the slab or bar is held between two screw points or suspended by thin wires. The electrodes consist of thin layers of aluminium, silver or gold, plated as evenly as possible to reduce the weight.

In general, X-cut bars, approximately 20 mils. thick $\frac{1}{8}$ inch wide and $\frac{1}{4}$ inch long are used in crystal filters of the type that this article centres around. They are included into a bridge-balance circuit which was first developed by Morrison, of the Bell Telephone Laboratories. Modifications to this type of circuit have since been made to introduce essential refinements such as variable rejection and variable selectivity.

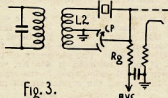


Fig. 3.

Reference to the various diagrams will disclose some of these modifications, but there are many others which provide interesting reading.

The AR7 crystal is mounted in a holder with a small air gap; the holder mounting and associated wiring naturally contributing to the value of the external capacitance (C). The SX28 crystal is enclosed in a specially designed polystyrene holder and the capacity

of the holder has been reduced to a minimum. The holder is wired directly into the circuit, thus further reducing the stray capacitance which lowers the efficiency of the filter.

By spluttering the electrodes onto the parallel faces of the crystal the value of the crystal capacity can be increased to a value approaching 0.05 pF. This high value enables bandwidths of 5 to 10 Kc. to be achieved with suitable circuit design. The ratio of crystal capacity (C) to holder capacity (C_h) determines how close the antiresonant frequency f_a can approach the series resonant frequency f_s and hence how close an interfering signal can approach 455 Kc. before it cannot be "notched" out.

Figs. 1 to 5 should be studied carefully, together with the corresponding text before embarking on the task of aligning the filter.

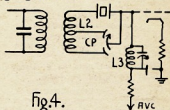


Fig. 4.

ACTION OF THE PHASING CAPACITOR, Cp

Fig. 5a shows the ideal condition for the action of a crystal filter circuit. The signal at 455 Kc. is passed and the side frequencies attenuated, but the skirt has a large flare and the attenuation of strong adjacent signals is insufficient to reduce interference. However, the curve is symmetrical and this indicates that the crystal has no holder capacity or its value is neutralised in some way.

In practice, the capacity of the holder C_h can be as high as 20 pF. (which will include all associated wiring, etc.) and energy therefore will be passed on all frequencies as though only a 20 pF. capacitor coupling were used between the i.f.t. and the grid of the i.f. tube. The 455 Kc. signal is passed as through a short circuit (Fig. 6).

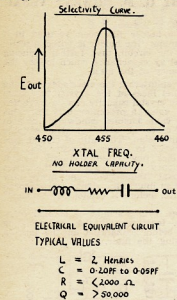
To remove the unwanted feed-through via C_h, energy is fed via C₁ as shown in Fig. 1. The secondary of the i.f.t. has a low impedance winding of a couple of hundred turns and is centred-tapped to produce antiphase voltages at X and Y with respect to ground (Fig. 1). By adjusting C₁ to the same value as C_h, the same value of voltage, but in opposite phase, will appear at Z on all frequencies.

However with the crystal resonating in series mode at 455 Kc. it will provide a short circuit path as already indicated in Fig. 5a. In effect, the

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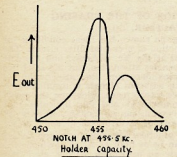
capacity of the holder has been neutralised.

Now suppose a strong signal at 455.5 Kc. is causing interference. By the adjustment of C_2 to values above or below C_1 the selectivity curve of Fig. 5b can be obtained. It is not necessary to give the mathematics of the circuitry,¹ but it can be appreciated from



Series Resonant Acts As A Short-circuit to signal at 455Kc.

Fig. 5A.



Anti Resonant Frequency occurs at 455.5 Kc.

Parallel Resonant circuit acts as A very high impedance at 455.5Kc

Series Resonant [xtal freq] still acts As A short circuit to 455Kc.

Signal on 455.5 Kc "Rejected"

Fig. 5b.

our knowledge of reactance modulators that the reflected reactance across the L.C.R. of the crystal can be either capacitive or inductive. When capacitive, the "notch" will appear higher in frequency, and when inductive the notch will be lower in frequency than 455 Kc. (See Fig. 5b.)

Hence by choosing a value for C_2 which will be variable either side of C_1 , it is possible to attenuate the 455.5 Kc. signal to a value where its level does not cause interference.

A thorough understanding of the above is necessary to align a crystal filter successfully and in addition the following. So if you are still with me, let's proceed to the matter of selectivity.

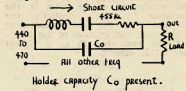


Fig. 6

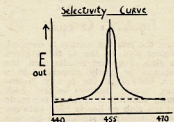


Fig. 6A.

SELECTIVITY

In Figs. 1 to 4 no attempt has been made to show this desirable feature. A good crystal will have a half-power bandpass of less than 250 c.p.s.

The crystal, correctly phased, is a short circuit, hence it will want to "look into" low impedance input and output circuits if the energy is to be passed. High impedance input and output circuits will load the crystal circuit as a high resistance will do to a series LC circuit.

By referring to Fig. 9a it can be seen that the loading of the crystal filter can take place either at the input or the output, to effectively broaden the selectivity curve. The secondary of the i.f.t., if made resonant at 455 Kc. will present a high impedance to the signal and hence load the crystal circuit and

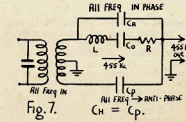


Fig. 7.

broaden the selectivity. The band-width will depend on the components in use, but can be made 5 Kc. at the half-power point. (See Fig. 9b.)

This value is adequate for any phone signals, but undercoupled i.f.t.'s can achieve the same result so it is not usual to strive for greater than 2.5 Kc. in the "broad" crystal selectivity position. For greater selectivity, C_1 detunes the secondary from resonance, hence lowering Z and increasing the selectivity. This method is the one used in the SX series Hallcrafters receivers C_1 is not continuously variable but has fixed values to give the required band-pass widths of "broad, medium and sharp."

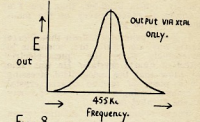


Fig. 8.

Fig. 10 shows a similar schematic to that used in the Hammarlund and the AR7 receivers. The slight dissimilarities do not affect the working of the filter as a unit but enable different patents to be held. In the AR7 there is no low turn tapped coupling to the output of the filter as shown here. The crystal couples as in Fig. 3b.

R_1 is a 3.5K potentiometer used as a rheostat which can be shorted out as shown. L_3 and C_3 provides a series resonant circuit at 455 Kc. having a high impedance which thus broadens the selectivity. As R_1 is brought into the circuit the Q of $L_3C_3R_1$ decreases and the effective impedance is lowered, the circuit eventually is detuned from 455 Kc. to a lower frequency if R_1 is made

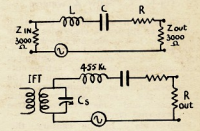


Fig. 9.

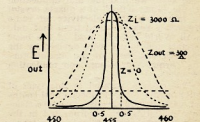


Fig. 9b.

¹ See "Radiotron Designers Handbook," p. 1080-1061.

Hence it is necessary when aligning, to have L3C3 exactly on 455 Kc. or the output will not give a symmetrical curve.

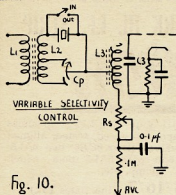


Fig. 10.

On the input side L2 is a low turn centre tapped coupling coil, its impedance chosen to match the impedance of the crystal and its associated wiring. Being uncoupled except by the two halves of C_1 and not resonant anywhere near 455 Kc, L2 acts merely as the secondary of a step-down transformer and has little effect on the operation.² However in Fig. 1 it can be seen that C_2 is across the coil and therefore phasing adjustments will alter the input parameters. This is overcome by the use of a "differential" split-stator capacitor in the circuit of Figs. 3, 4 and 10. As C_2 is moved, the effective capacity to earth across the coil L2 will remain constant although the phasing capacitance value will decrease as C_2 is turned out of mesh.

It should be well appreciated that adequate screening of input and output circuits is absolutely necessary for the best results from a filter of this nature. Any bypassing of signals from one stage to the next ruins its operation. To this end it is thus better to have the filter at the low level end of the i.f. amplifier section. Immediately following the converter is preferable and for yet another reason—to reduce the "ringing" of the crystal due to noise pulses.

2 This is recognised as a constant voltage generator system.

RULES OF THE AUSTRALIAN DX CENTURY CLUB AWARD

1. The Australian DX Century Club Award is open to any Australian Amateur who has established two-way contact with one hundred or more countries in the World and complies with the following rules.
2. All contacts must have been made since the return of licenses after the 1939-45 war.
3. The official countries list as published annually (and amended from time to time) in the Federal Notes of "Amateur Radio," shall be used for the purpose of determining countries.
4. All contacts shall be made with other Amateur Stations operating in the authorised Amateur bands, or with stations licensed to contact Amateur Stations.
5. Contacts made with ship or aircraft stations will not be allowed but land mobile stations may be claimed provided the location at the time of contact is clearly shown on the confirmation.
6. In the case of countries where Amateur Stations are officially licensed by Government authorities, credit may only be claimed for stations using regular government assigned calls.
7. In the case of countries where Amateur Stations are not officially licensed, the onus shall lie with the applicant to prove that the confirmation submitted is for a contact with a station in the claimed country.
8. Stations of a portable nature which are using their own call sign followed by the prefix of the country in which they are operating may be credited under Rules 6 and 7 above, provided that the confirmation submitted indicates the particulars of such operation and the other requirements are in accordance with these Rules.
9. Each confirmation submitted must show the date of contact, type of

10. Confirmations must be submitted exactly as received from the station contacted and altered or forged confirmations will be grounds for disqualification.
11. Out-of-band operation used to contact a station will result in disqualification and be retrospective in the case of members.
12. All stations must be contacted from the same Australian call area and by the same licensee, although if the call sign is subsequently changed, contacts will be allowed if still within original call area and by the original licensee.
13. Confirmations submitted which show both phone and c.w. reports may be accepted for both sections, if the dates of each contact is shown and omission is indicated.
14. Should a country be deleted from the official countries list at any time, members and intending applicants will be credited with such country if the date of contact is before the date of such deletion.
15. Certificates will be issued for "All Phone", "All C.w.", and "Open" contacts with a hundred countries and stickers will be subsequently issued for each additional twenty countries confirmed over the one hundred.
16. Successful applicants will be listed monthly in "Amateur Radio". Subsequent to the first application, members must submit additional confirmations of not less than five at any one time, for additional credit.
17. Applications for membership shall be accompanied by the Awards Manager, G.P.O. Box 2611 W. Melbourne, and accompanied by sufficient postage for return by registered mail. Confirmations must also be accompanied by a list of claimed countries and stations, showing relevant details or explanations where necessary.

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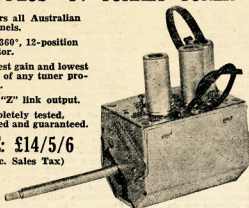
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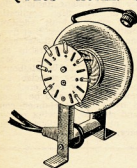
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AN AUTOMATIC MORSE KEYS

BY D. G. HAWTHORNE,* VK3ZCD

THIS article briefly describes an automatic Morse keyer and the associated equipment used as a source of practice Morse. Commercial and marine stations had been used, but these suffer the disadvantages of interference, intermittent operation, and more important, no means of speed variation to suit the trainee's skill. The recent purchase of a keyboard perforator resulted in the construction of suitable automatic transmitting equipment. The system uses the Wheatstone code, a modification of the International Morse Code designed for use in automatic equipment. It differs from Morse only in the method of presentation. Whereas standard Morse uses a variable length pulse for information, the Wheatstone code uses separate pulses signaling the beginning and completion of each character, the time in between the pulses corresponding to the length of the Morse character.

travelled a further 1/20 inch, the space hole reaches its brush, Fig. 1d, and the current flow stops the switch operation. There is then a pause of 1/20 inch tape travel till the next mark hole reaches its brush, Fig. 1e. This 1:1 mark-space ratio is the same as that for Morse "dits". Similarly, the staggered "dah" perforations result in the 3:1 mark-space ratio required for the Morse signal.

The keyboard perforator used to punch the tape, is a Teletype model obtained through disposals. It has a standard typewriter keyboard, except the punctuation marks are replaced by keys for various operating signals. The heart of the instrument is a precision punch assembly. It contains ten columns of punches, each column having a mark, sprocket, and space punch. The tape moves in a guide slit in front of the punch block, the left-hand punches are selected by "swords", metal rods

these being capable of omission or modification as required. The first section, using valve 1, is an Eccles-Jordan trigger used as an electronic switch for translation of the Wheatstone code. The second section using valves 2 and 3, is a simple, but effective, electronic key. The final section is a 800 c/s. audio oscillator. The operation of the individual units is as follows:

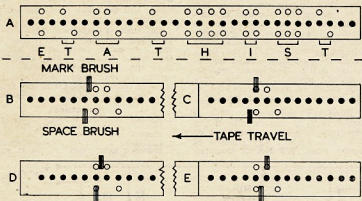


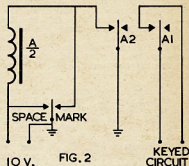
FIG. 1

In the writer's apparatus, these commencement, or mark pulses, are used to operate an electronic switch, and the completion, or space pulses, end the switch operation. The code is stored on a perforated paper tape, an example being shown in Fig. 1a. The top row of holes correspond to the mark signals, the bottom row to the space signals, and the middle row are sprocket holes. These sprocket holes are spaced 1/10 inch apart, this being equivalent to two units time, the length of a Morse "dit" being taken as one unit. It will be seen that opposed mark and space holes correspond to a "dit", staggered holes to a "dah", one sprocket hole separation between the last space hole and the next mark hole corresponds to the interletter space. A separation of two sprocket holes corresponds to the interword space.

In this equipment perforations are sensed by small spring brushes making metallic contact with the tape-guide. The space-brush is placed 1/20 inch beyond the mark-brush, Fig. 1b. When a mark hole arrives at brush, Fig. 1c, current can flow through the brush and operate the switch. When the tape has

which can move into a position between the back of the punches and a hammer. The hammer moves a short distance forward each time a letter is struck, the distance being too small to operate the punches unless a sword is in position. The keybars have projections which can depress selector bars, which, in turn, operate the swords. Imagine the key for the letter G is struck. The projections depress the selector bars corresponding to the 1st, 3rd, and 5th mark swords, and the 2nd, 4th, and 5th space swords. When the key is fully depressed, a set of contacts close, energising a solenoid which operates the hammer, causing it to force the selected punches through the tape. While the hammer is moving forward, a mechanical system determines the length of the perforated letter. On releasing the key, the hammer, swords, and punches return to their positions and a ratchet-wheel pulls the tape the required distance to the left. By use of a combination key, the interletter space can be omitted, enabling special characters to be formed from suitable letter combinations.

The keyer, circuit Fig. 3, can be divided into several sections, some of



(1) Eccles-Jordan trigger.¹ A relay operated translator, shown in Fig. 2, had been tried, but the response was not sufficiently rapid to operate on the momentary current pulses from the brushes. The valve circuit overcomes this because of its almost instantaneous value of the grid resistance causes V1A to preferentially reach the conducting state, the potential drop across R1 maintaining grid V1B below its cut-off potential.

The current drawn by R3 and R6 is insufficient to operate the relay A. The start signal short-circuits R6, reducing the V1B anode current to zero. The resultant rise in its anode potential applied to grid V1B via R4, allows V1B anode current to flow, this in turn actuating the relay. The lowered V1B anode potential, due to the current through R2, maintains V1A in the cut-off condition. This "switch-on" state is stabilised by the feed-back circuit; any tendency for V1A anode current to flow is countered by an increase in the V1A grid bias. The circuit can revert to its original state when the space brush short-circuits R8. If R6 is no longer short-circuited by the mark brush, the V1B anode current is reduced to zero, the resultant rise in V1B anode potential being transferred to the grid of V1A and allowing current to flow. At the same time the relay opens, and, due to the stabilising action of the circuit, the V1B anode current remains zero till the next mark pulse causes repetition of the above sequence of events.

(2) Electronic Key. This is a modification of a circuit² due to Jack Gallagher, W5HZE. It consists of a thyatron oscillator and a double triode pulse-shaping circuit. In the rest position, C3 is held charged to about 35 volts, the cathode potential of V2B, by means of grid current conduction. The bias control holds V2A in a cut-off state,

* Flat 3, 11 Leopold St., South Yarra, Vic.

and hence the relay remains open. (The trigger can be ignored for the present analysis.) On closing the dash contacts of the key S_k , C3 is rapidly discharged by the thyatron, and recharges through R19 and the speed control, R20, after the capacitor potential falls below the thyatron extinction point. The cycle can be repeated if the contacts are kept closed, the repetition rate being determined by the charging time of C3.

The fall in C3 potential causes a decrease in V2B anode current, the resultant rise in its anode potential, relayed to grid V2A by R13, allowing current flow in V2A, this actuating the relay. As C3 recharges through R19 and R20, the increased flow of V2B anode current, and corresponding fall in V2A grid potential will cause cut-off of V2A and opening of the relay. The critical V2B potential for V2A cut-off is set by the value of R10, this setting determining the mark-space ratio for the dash.

On closing the dot contacts, the potential drop across R16 causes the thyatron to extinguish before C3 is fully discharged. This results in a faster repetition rate without alteration in the space duration. The latter is determined by the constant interval required for C3 to charge from the critical potential defined earlier, to the firing potential of the thyatron. This is fixed by the values of R19 and R20, and is independent of previous events, provided the discharged potential is less than the critical potential. The dot-dash ratio is set by R16, which could be replaced with a 2.2K resistor without noticeable deterioration in quality. Note—Dirty key contacts will cause erratic operation by introduction of additional resistance in the discharge circuit.

The electronic key has a self-completing characteristic, i.e. the contacts need only be closed for the fraction of a second required to discharge C3. If the trigger is not required, the circuit can be broken at the R5/relay junction. The speed range of the key is approximately 12 to 35 words per minute. The only precaution is to maintain the thyatron heater voltage above the manufacturer's minimum of 5.8 volts. The speed is dependent on the cathode temperature, and if the voltage falls below the minimum, the keying becomes erratic.

(3) Audio Oscillator. This a resistance-capacitance oscillator tuned to 800 c/s. It is keyed by interruption of the a.c. return path of R26 and R27. L is an audio choke used for simultaneous keying of other equipment; it was not installed in the writer's unit. The audio frequency can be changed to 1000 c/s. by replacing R25, R26 and R27 with 47K resistors. The audio output is monitored by high impedance phones placed across R28.

(4) Power supplies. A supply of 300 volts at 20 mA. is required for the high tension line. It is advisable to not differ more than 10 per cent. from this value, this being the tolerance of supplies and components allowed for in the design. The electronic key supply is not critical, the only noticeable effect for voltages as low as 230 volts being a decrease in speed and a need for re-adjustment of R10. The heater requirements are 6.3 volts at 2.1 amps. Care must be taken to avoid excessive resistance losses in the heater leads.

(5) Hand-key mechanism. This is designated as S_k in the circuit. It can be a modified bug key as described by W5HZB. The writer's key consists of two Army keys, WT No. 2, mounted

back-to-back on a piece of Meccano. The knobs have been replaced by bakelite paddles, the spacing being ca. $\frac{1}{4}$ ". The key arms are not connected mechanically. The left-side key is used for "dits" in accordance with standard bug design.

(6) Keying Head. This is unique. The writer's model is powered by a small synchronous motor, the speed variation being obtained by a variable ratio friction drive attached to a 1:50 worm drive from a disposals tuning unit (BC191E). Use of a $\frac{1}{4}$ inch diam. capstan gives a tape speed of between 35 and 75 inches per minute, i.e., 14 to 30 words per minute. The brushes are made from four strands of 26 gauge phosphor-bronze wire attached to bolts used for setting the position. Further information is available on request, the complete description being too detailed to warrant inclusion in this article.

The only serious trouble experienced in the design was the construction of the brushes; these are operating properly at present, though the writer's skill at metal-work is not sufficient to make the brushes reliable enough for communications purposes. No difficulty was found in the adjustment of the head, and the quality of the Morse is perfect.

Commercial equipment normally uses vibrating "peckers", synchronised with the tape drive, to sense the holes in the tape. Though more complicated than the brush system used by the writer, it overcomes the serious problems of timing ambiguities and reliance on good brush contact.

REFERENCES

1. Renwick, W., and Philster, M., "A Design Method for Self-Coupled Flip-Flops," *Electronic Engng.* 27, 246.
2. Gallagher, J. D., "A Thyatron-Controlled Electronic Key," "QST" 37, No. 12, p.24.

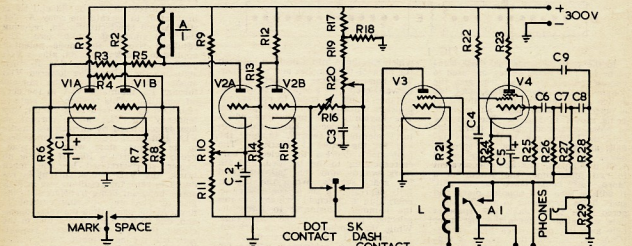


FIG. 3

C1, C2— μ F., 250v.v.
C3—0.5 μ F., oil/paper.
C4—0.1 μ F., 400v.
C5—25 μ F., 40p.v.
C6, C7, C8—2,000 pF., mica.
C9—0.01 μ F., 600v.
R1, R2—47K, 1w.
R3, R4, R12—500K, $\frac{1}{2}$ w.
R5, R13, R14, R19, R22—1M, $\frac{1}{2}$ w.
R6, R15—100K, $\frac{1}{2}$ w.
R7—15K, $\frac{1}{2}$ w.

R8—82K, $\frac{1}{2}$ w.
R9—25K, 30w., wire-wound.
R10—5K, 4w., wire-wound.
R11—1.5K, $\frac{1}{2}$ w.
R16—3K, carbon.
R17—220K, $\frac{1}{2}$ w.
R18—320K, $\frac{1}{2}$ w.
R20—Carbon, linear taper.
R21—30K, $\frac{1}{2}$ w.
R23—470K, $\frac{1}{2}$ w.

R24—2.2K, $\frac{1}{2}$ w.
R25, R26, R27—50K, $\frac{1}{2}$ w.
R28—47K, $\frac{1}{2}$ w.
R29—22K, $\frac{1}{2}$ w.
C4—Audio choke.
L—Audio choke (see text).
Relay—From BC357, 1 mA., 10K coil resistance.
V1, V2—6SN7GT.
V3—2221.
V4—6ES7.
S_k—See text.

HINTS AND KINKS

DISMANTLING A MAST

The mast to be dismantled was constructed of 2" square oregon, planed all round, and stood approximately 40



Saw timber diagonally, length one foot. Two pieces 2 inch angle steel.

Four 5/16 inch bolts 2 1/2 inches long. (Two through each way.)



Usual joint.

(About 2 feet long.)

Three 3/8 inch bolts 6 inches long.

Cut each side different length. (About 1 ft. difference quite satisfactory.)

Five 5/16 inch bolts 6 inches long.

Paint all joints before re-assembly.

Suggested the bolts be coated with aluminium paint to avoid rusting.

feet high; utilising three pieces of timber slightly in excess of 20 feet, in the conventional manner.

Because it was not practicable to remove the 20 ft. (or thereabouts) lengths, the timber had to be cut to about 10 feet lengths.

The top length was cut diagonally, with a cut about a foot in length, and was later reconstructed with the aid of two pieces of 2" angle steel and four 5/16" bolts, as sketched.

The lower section was cut so that each side was left with an overlap of one foot and a three foot piece of the same sized timber bolted in the middle, when re-assembled, using five 5/16" bolts at the points indicated.

The length of the mast is not affected by the cutting and it has stood for three years after re-assembly, indicating that the method is satisfactory.

It has again been dismantled and will be re-erected on the same lines, using a ladder as a "jury rig" to swing it up on its bolt-mounted base, in due course.

No additional guys are needed, six having been found sufficient to hold a 137 feet wire against all winds.

It is, of course, necessary to paint the cut points before re-assembly and also to paint the angle steel, both inside and out.

—T. Laidler, VKSTL.

INSULATED FEED-THROUGH

If you are wiring any equipment and you desire rigidity and insulation through the chassis, simply obtain the plastic tube portion of a used ball-point pen refill. Drill a hole through the chassis and the job is neatly done! If necessary the tube can be cemented neatly into place with polystyrene which has been dissolved in ethylene dichloride.

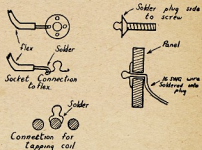
—Ian Hunt, WIA-L3007.

CONNECTORS

Connections are required for a variety of use in radio equipment and especially in Amateur Radio gear. Such uses are the connecting of aerials and coupling links, speakers and phones, the tapping of tuning coils, etc.

To perform these functions screw terminals, banana plugs, telephone jacks, alligator clips and wafer switches have been used.

A neat and cheap substitute for most of these items is found in the snap fastener or press stud used for women's and children's clothing. These, which sell for threepence a dozen, are made of plated brass and form a miniature spring-retained plug and socket.



The plug part may be fitted to a screw for panel mounting by soldering the head of a 1/4" Whitworth counter-sunk brass screw to the back of the plug. The socket section can be connected to a flexible wire through the one thread hole of the four which is not adjacent to the spring and turning back and soldering.

Also the plug part may be fitted to a panel by soldering a solid wire into the hollow of the plug, passing the wire through a neat hole in the panel and bending down sharply behind.

For tapping an inductance the base of the plug portion may be folded around the wire and soldered to it. In this way the connectors may replace a wafer switch and reduce the distributed capacity of an inductance.

—J. Gazard, VKJNG.

USING FILM REELS AS CAPACITIVE HATS

Have you ever tried using a 16 mm. movie film reel as the capacitive hat for a mobile whip? These reels are readily modified for simple mounting, and perform effectively as capacitive loading units. You may even be lucky enough to obtain one or more slightly damaged reels at no cost by visiting a film library or concern that rents home entertainment films.

In the original form, a reel consists of two round discs joined at the centres by the hub on which the film is wound. Only one of the discs is used for capacitive loading purposes and, as a result, the reel should be split into two sections by removing the hub. Enlarge the hole at the centre of one of the discs to accommodate a bushing or other suitable hardware, slip the assembly down over the top section of the whip, and you are in business.

This idea was actually suggested by W5YZL. It has worked out so well in practice that I thought it worth passing along.

—E. V. Blayie, Jr., W5TVW, "QST" Feb. '58.

[Editor's Note: See "Top Loading Capacitance," in the Radio Amateur's Handbook, chapter 19, for additional data on capacitive hats and the effects of capacitive loading on loading coil inductance.]



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(actual size)



PROTECT YOUR TRANSISTORS WITH ORYX

There is a danger of damage when soldering to transistor leads, due to A.C. leakage currents. The use of a low-voltage transformer supply, with earthed secondary is therefore recommended. Take care also that too much heat is not applied to flying leads. The ORYX iron, and a heat-sink such as heavy pliers gripping the lead between the contact point and the transistor, will ensure protection.

- Fast heating element, ready for operation in less than one minute.
- Exclusive design features resulting in universal acceptance of ORYX as the standard miniature soldering instrument.
- The ORYX long life element will outlast several bits which are of tight push-on fit.

Bit Dia.:	Volts	Watts	Nett Weight	Length	Recommended Use
Model 6 1/16" (Fixed)	6	6	0.25 oz.	6"	Electrical measuring instrument fine assemblies, hairsprings, R.F. pick-up and speech coils, hearing aid sub-assemblies, etc.
Model 6a 3/32" (Push-on)	6	6	0.25 oz.	6"	As for Model 6 (for extremely delicate work only).
Model 9 5/32" (Push-on)	6, 12, 24-27½	8.3	0.25 oz.	6"	Hearing Aids, Radio and TV Sub-assemblies, Coils, Electronic Instruments, Model Construction, Electro-Medical, etc.
Model 12 3/16" (Push-on)	6, 12, 24-27½	12	0.5 oz.	6.25"	Radio, Television, and Telecommunications assemblies.
Model 18 3/16" (Push-on)	6	18	0.75 oz.	7½"	For heavier work, heat capacity equivalent to that of most 80 watt soldering irons.

MANUFACTURERS SPECIAL PRODUCTS PTY. LTD.

47 YORK STREET, SYDNEY

MELBOURNE: Amalgamated Wireless (Australasia) Ltd.

ADELAIDE: Newton McLaren Ltd.

PERTH: Nicholson's Ltd., Carlisle & Co. Ltd.

HOBART: Noyes Bros. Ltd.

BRISBANE: Chandlers Ltd.

MSP3.58

AWARDS

D.V.Q. AWARD

For those interested in awards, here is a new award given by the Radio Club of Quebec. It is called the D.V.Q., French abbreviation for Diplome de la Ville de Quebec, Quebec City Diploma.

To be eligible, each applicant must give proof of having contacted at least five different stations in the City of Quebec; for other countries than Canada and U.S.A., a total of three stations is necessary. C.w. or Phone, or a combination of C.w. and Phone makes no difference in obtaining this award.

Just send your log abstract and one Reply Coupon to: Alex Desmeules, VE2AFC, 186 Aberdeen Street, Quebec City, Canada.

J.A.R.L. AWARDS

J.A.R.L. is issuing the following certificates for confirmed two-way contacts and short wave listeners. Those who can satisfy each of the following items will be awarded a certificate.

QSLs dated after 30th July, 1952, the date when Japanese Hams came back on the air after World War II, are available. All authorised bands and all types of emission may be used.

Send your QSLs to the Oversea Committee, J.A.R.L., P.O. Box 377, Tokyo, Japan, with a check list. Shortly after, you will have a fine certificate for the result of your efforts.

(1) A.J.D. (All Japan Districts) will be awarded to any Ham who can prove contact with a station in each of 10 JA call areas. The application must be accompanied by 10 I.R.C.'s for non-members and 5 for members of J.A.R.L.

(2) H.A.C. (Heard All Continents) will be awarded to any SWL who can submit a Ham Station's QSL card for

six continents of the world. 5 I.R.C.'s for non-members and no fee for members of J.A.R.L.

(3) W.A.J.A. (Worked All Japan Prefectures) will be awarded to any Ham who can prove contact with the 46 separate prefectures in Japan. 10 I.R.C.'s must be included in the application for non-members and no fee for members of J.A.R.L.

(4) J.C.C. (Japan Century Cities) will be awarded to any Ham who can prove contact with a station in 100 different cities in Japan. There are over 400 cities in Japan. 10 I.R.C.'s must be paid for non-members and no fee for members of J.A.R.L.

(5) Certificates for S.W.L.s. These certificates also apply to SWL's who can prove having heard the stations mentioned above. Other conditions are the same as for transmitting stations.

TWENTY-FIRST B.E.R.U. CONTEST Better Response from Australasia

The coming of age of the B.E.R.U. Contest was celebrated by Amateurs throughout the Commonwealth on January 25-26, 1958, in no uncertain manner. More came on the air, made more contacts and sent in more logs than last year which was considered to be among the most successful of all previous contests. There was a rise of 25 per cent. in the number of logs received.

In the High Power Section the first three placings were: ZS6DL, 1st, 4669 points; ZC4IP, 2nd, 4145 pts.; VE3KE, 3rd, 3977 pts. Australasian entries: VK2GW, 13th, 2475 pts.; ZL4BL, 1500 pts.; VK2APK, 1145 pts.; VK5MY, 1120 pts.; VK2PV, 1055 pts.; VK2BA, 1005 pts.; ZL1BJ, 998 pts.; ZL1RD, 890 pts.; VK2AWA, 785 pts.; VK9JF, 620 pts.; VK4XY, 210 pts.; and VK2HZ, 150 pts.

The Low Power Section was won by ZS6R with 2538 pts.; ZD2DCP, 2nd, 1894 pts.; ZB2L, 3rd, 1946 pts. Australasian entries: VK3ZC, 920 pts.; and ZL1MT, 775 pts.

CAPACITIVE NEUTRALISING HINT

The capacitive neutralising circuit for screen-grid tubes shown in Fig. 1 will be recognised as the basic arrangement described in Chapter 6 of "The Radio Amateur's Handbook" (see "Stabilising Amplifiers"). It differs from the Handbook system only in that the grid bypass, C1, is the variable control, while the neutralising capacitor, C2, has a fixed value.

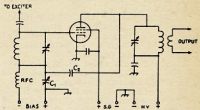


Fig. 1.—Circuit of a screen-grid amplifier using the capacitive neutralising arrangement suggested by WILU. Notice that a variable capacitor, C1, is used as the grid-circuit bypass and that the neutralising capacitance is of fixed value. Neutralising is accomplished by the adjustment of C1.

In practice, C2 usually has a very low value of capacitance—approximately 2 to 10 pF. Voltage rating for the capacitor must be the same as the amplifier plate voltage for c.w. work and twice this value when plate modulation is used. A variable capacitor that will meet these specifications is not always easily come by. However, a suitable fixed unit can usually be easily located or quickly fabricated from scrap aluminium. Of course, the fixed capacitor may be used as long as the grid by-pass capacitor, C1, is variable. Fortunately, compact wide-range padder capacitors that have adequate voltage rating for grid-circuit duty are available. The voltage rating required must equal the operating bias of the amplifier tube. The knowing Ham will select a conservative rating that allows some safety factor.

—W. S. Allen, WILU ("QST," Mar. '58)

D.X.C.C. LISTING

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. Cnt. No. ries	Call	Cer. Cnt. No. ries
VK6RU	2 211	VK3BZ	3 176
VK3WL	14 211	VK6KW	4 168
VK6MK	43 208	VK4RW	23 164
VK3ATN	26 204	VK3EE	10 163
VK4FJ	21 202	VK9DB	31 161
VK4HR	12 192	VK4WF	16 160

C.W.

Call	Cer. Cnt. No. ries	Call	Cer. Cnt. No. ries
VK3KB	10 245	VK3XU	48 213
VK3CK	26 235	VK3YJ	39 203
VK4FJ	29 234	VK3BY	45 202
VK3FH	15 226	VK6RU	18 195
VK3BZ	6 222	VK3EO	2 191
VK4HR	8 218	VK3GX	23 176

Amendments

VK4RW	47 155	VK3JT	54 134
-------	--------	-------	--------

OPEN

Call	Cer. Cnt. No. ries	Call	Cer. Cnt. No. ries
VK3ACK	6 250	VK3XU	61 221
VK4FJ	32 238	VK3HG	3 215
VK6RU	8 235	VK6MK	74 212
VK4HR	7 231	VK3JE	12 210
VK3BZ	4 231	VK3ATN	69 210
VK3WL	45 225	VK3LZ	23 201

Amendments

VK4RW	52 191	VK3JT	63 140
-------	--------	-------	--------

AMATEUR RADIO SERVICE

605 ABERCORN STREET, ALBURY, N.S.W. Phone 1695

would like to take this opportunity to wish you all a

Very Merry Christmas

and a

Happy New Year

with good DX prospects.

We also thank you for your interest, and look forward to being of some assistance to you during the New Year.

(Signed) D. C. Haberecht, for A.R.S.

1958 REMEMBRANCE DAY CONTEST RESULTS

WESTERN AUSTRALIA RETAIN TROPHY

Congratulations to the Western Australian Division for the third time in succession with a narrow win from the Tasmanian Division.

The Memorial Trophy will again be held by Western Australia. A framed photograph of the Trophy will also be presented.

To Tasmania, the Contest Committee has made an award of a suitably inscribed Certificate for the Highest Average Log Score. Victoria also put up an excellent performance.

South Australia made history by having an average score of over the 1,000 points for the top six logs.

It was pleasing to see that New South Wales improved the log entry from 56 logs in 1957 to 90 logs in this present Contest. Even so, it is still very difficult for the larger Divisions to gather over 1,000 licensees together. In these States the percentage of "inactive" calls is as much as 25% and further thought should be given to equalising the conditions.

A pleasing aspect of the Contest was the increased entry in the Listeners' Section. Extra awards have been made.

—Federal Contest Committee.

STATE TROPHY

Western Australian 5404 points

STATE AWARD—Highest Log Average
Tasmania 261.7 points

CALL AREA AWARDS

Phone:	Points
VK1PMP—R. E. W. May	970
3ATN—T. R. Naughton	1271
3ATR—T. B. Rodda	984
3ADW—D. A. Wardlaw	933
4DJ—G. F. Pooley	774
5EN—A. R. E. Nitschke	1109
5AF—A. S. Little	1003
6KW—R. W. Hugo	914
7GC—G. Cranby	702
9LE—L. K. Earp	314
OTC—T. J. Cordwell	672

Open:	Points
VK2QL—F. T. Hine	498
3XB—I. Stafford	409
4JF—F. C. Files	219
5QR—R. V. Galle	390
6UF—F. H. Turner	149
7CH—C. Harrison	463
9RR—R. R. Hooper	84

C.w.:	Points
VK2RS—D. C. Haberecht	1077
2BO—E. L. Andrews	941
3ALZ—I. F. Berwick	849
4DP—D. M. Portley	634
5WO—A. S. Condon	1144
5NO—L. H. Vale	1090
6RU—J. E. Rumble	1174
7KA—E. E. Millen	714
9XK—S. R. Coleston	848

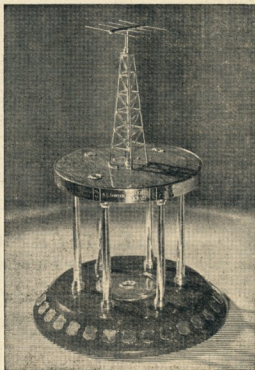
Listeners:	Points
VK2—D. M. Grantley	1054
J. McAllister	778
VK3—A. C. Stebbing	815
C. T. Taylor	793
VK4—Nil	
VK5—F. W. Aslin	706
VK6—A. W. Clowes	983
VK7—R. A. de Balfour	1131
VK9—Nil	

NEW SOUTH WALES

VK2RS Open	1077	Total Score	18841
1PM Phone	970	Average/6	925.5
2BO Open	941	Licensees	1207
2AHH Phone	891	Log Entry	90
2AHH Phone	856	Percentage	7.46
2JU Phone	818	State Points	2330

State Log Average 209.3

Phone:			
VK2YN	517	VK2ER	162
2VU	431	2AJS	158
2AIA	410	2NV	144
2AQF	345	2ADT	143
2AWN	315	2ADL	142
2GI	313	2JB	133
2ACD	268	2QV	131
2AWX	268	2AJL	126
2OH	267	2W	109
2AEB	254	2AOV	102
2RI	244	2ALU	88
2WT	241	2FM	81
2YU	238	2XT	80
2AIM	209	2AAJ	77
2AFA	207	2XP	63
2JA	190	2AJO	59
2SR	177	2ATS	54
2BB	170	2DR	53
		2WI	48
		VK2JF	43
		2ABO	42
		2AHA	40
		2AVI	36
		2AVJ	33
		2APQ	31
		2AOR	25
		2AJY	25
		2PL	23
		2MP	22
		2VT	21
		2ACO	19
		2HK	16
		2RM	12
		2AGR	11
		2AXG	8
		2CS	8



Remembrance Day Trophy retained by West. Australia

Open:			
VK2ASZ	792	VK2AJQ	238
2PN	693	2AGH	156
2XU	643	2HC	138
2OJ	578	2EG	131
2VN	442	2OE	131
		2ANU	102
C.w.:			
VK2QL	498	VK2OW	145
2YB	205	2HO	105
2XQ	193	2HV	53
2EL	147	2IC	47
		2ZC	44
		VK2AZ	43
		2G	33
		2RA	30
		2ARZ	17

VICTORIA

VK3ATN Phone	1271	Total Score	18499
3ATR Phone	984	Average/6	951
3ADW Phone	933	Licensees	1149
3DQ Phone	869	Log Entry	72
3ALZ Open	849	Percentage	6.27
3OM Phone	800	State Points	2110

State Log Average 256.9

Phone:			
VK3AIT	723	VK3AKF	213
3VF	626	3AJP	205
3JC	608	3AGG	201
3ABT	465	3KR	184
3LW	447	3SM	186
3APJ	440	3ATS	185
3ACN	425	3HE	184
3ABZ	423	3RN	164
3APS	412	3ZZ	163
3KC	361	3AGV	147
3NN	358	3AZR	138
3ARJ	292	3AXU	123
3AFF	280	3PX	113
3TG	265	3AUL	113
3ZU	260	3DY	110
3YQ	234	3CE	100
3ADV	218	3AW	16

Open:			
VK3JE	130	VK3PR	104
		VK3OH	69
C.w.:			
VK3XB	323	VK3ZA	238
3ZO	319	3AP	205
3HG	279	3NK	123
3RJ	238	3AWS	92
		3YS	91
		3GZ	63
		VK3OJ	84
		3ARV	80
		3GZ	74

QUEENSLAND

VK4DJ Phone	774
4DP Open	634
4PQ Phone	584
4RH Open	533
4MF Phone	438
4AF Phone	327
Total Score	7299
Average/6	548.3
Licensees	401
Log Entry	47
Percentage	11.72
State Points	1404

State Log Average 155.3

Phone:			
VK4HA	265	VK4ER	47
4BB	257	4LE	41
4TF	250	4FF	40
4WJ	243	4JY	39
4SN	246	4CN	35
4DI	219	4NG	31
4PU	209	4RW	29
4PR	182	4XR	26
4RJ	143	4ZZ	24
4PS	132	4EC	20
4PW	118	4MO	19
4OV	91	4NJ	19
4XJ	81	4HJ/P	13
4ZP	76	4AQ	12
4EP	73	4EA	12
4PX	72	4PD	9
4XO	61	4BJ	6
4ZM	50		

Open:			
VK4DO	262	VK4XP	89
		4BI	83
C.w.:			
VK4JF	219	VK4CJ	81
		4AW	40

SOUTH AUSTRALIA

VK5WO Open	1144	Total Score	18767
5EN Phone	1109	Average/6	1004.5
5NO Open	1090	Licensees	435
5AF Phone	1003	Log Entry	76
5KM Phone	879	Percentage	17.47
5JN Open	802	State Points	4283

State Log Average 246.9

SOUTH AUSTRALIA (Continued)

Phone:			VKSXV	75
VKSQ	708	VKSOC	216	SMK
5EP	600	5G	211	SMK
5F	456	5TJ	206	SCJ
5LQ	453	5L	192	SWI
5BH	444	5SX	180	XCU
5LC	406	5BG	180	XSA
5OKY	377	5SKY	147	SCN
5BF	368	5SS	138	SR
5XM	367	5CO	133	SKD
5RR	364	5AX	120	SDO
5CB	354	5C	113	SCB
5XY	337	5JG	113	SJR
5LB	331	5UA	106	SDP
5LT	304	5TM	103	SWM
5PJ	285	5MS	97	SWR
5AP	285	5UF	94	SDU
5EU	251	5WA	93	SKU/P

Open:			VKSLD	201
VKSFY	285	VKSWC	213	SHM
SRG	251			56

C.w.i.:			VKSTL	48
VKSQR	390	VKSXZ	110	5OR
5XK	233	5RK	74	5OR
5MY	231	5TW	80	5MD
5LT	231	5RX	53	5DK
5TG	213			19

WESTERN AUSTRALIA

VK6RU	Open	1174	Total Score	12530
6KW	Phone	914	Average/6	795.7
6WD	Phone	734	Licenses	242
6CL	Phone	688	Log Entry	89
6DX	Phone	647	Percentage	36.78
6BE	Open	617	State Points	5404

State Log Average 140.5

Phone:			VKELL	29
VKSFW	604	VKSFD	84	6JG
6SM	534	6WZ	83	6JG
6KJ	399	6AG	85	6BS
6KZ	329	6KE	85	6ST
6RJ	301	6MG	83	6MB
6LG	277	6FL	67	6VM
6WV	266	6F	67	6AIE
6WU	188	6WI	63	6AL
6GB	182	6ER	58	6G
6PW	179	6JH	56	6TP
6CN	145	6ME	48	6RO
6KO	144	6XG	48	6CM
6TB	143	6MO	40	6CR
6WV	137	6FP	40	6TY
6RH	137	6GD	37	6OR
6CP	117	6CM	36	6GJ
6PB	115	6LM	33	6MN
6CA	109	6HK	32	6SR
6BW	98	6RS	31	6TX
6BO	94	6BC	30	6TR
		6EW	29	

Open:			VKAF	34
VK6MA	418	VK6MA	227	6BR
6GU	251	6TL	60	

C.w.i.:			VK6DF	27
VK6UF	149	VK6UT	41	6LU
6VK	126	6MY	40	6XZ
6AJ	89	6RP	34	6XZ
6WV	87	6KV	33	6XP
6DJ	46	6BA	32	6JK
		6WH	31	

Unacceptable Log: VK6ZAA, 24 pts.

TASMANIA

VK7KA	Open	714	Total Score	12040
7GC	Phone	702	Average/6	688
7RN	Phone	697	Licenses	125
7DW	Phone	657	Log Entry	46
7JB	Open	629	Percentage	36.8
7AI	Phone	609	State Points	5099

State Log Average 261.7

Phone:			VK7CK	49
VK7PM	555	VK7VA	293	7CT
7RL	519	7TL	283	7PJ
7SM	462	7BQ	193	7PJ
7JO	455	7BT	157	7PA
7SP	449	7XL	148	7D
7MF	447	7AB	83	7KS
7DR	375	7JP	74	7RK
7RK	306	7KM	66	7LE

Open:					
VK7LZ	574	VK7NC	188	VK7YY	147
7LJ	450	7BJ	156	7YL	72
7OM	263			7PJ	36

C.w.:					
VK7CH	463	VK7RY	57	VKTDS	20
7KM	381	7ZZ	33	7AL	18
7MZ	137			7SR/P	13

PAPUA-NEW GUINEA

VK9XK	Open	848	Total Score	2288
9DB	Open	812	Average/6	378
9LE*	Phone	314	Licenses	77
9NT	Open	293	Log Entry	6
9RR	C.w.	84	State Points	555
9HI	Phone	17		
			Cocos Island.	

State Log Average —

ANTARCTICA

VKOTC Phone 672

LISTENERS SECTION

NEW SOUTH WALES

D. M. Grantley	1054	J. E. Mackie	433
J. McAllister	778	D. W. Shepherd	374
I. S. Curthoys	717	B. J. Harwood	370
N. L. Dush	674	P. J. Carter	350
J. Douglas	540	B. J. Smyth	340
H. C. Craig	516	D. Richardson	400
B. F. Cartwright	455		

VICTORIA

A. C. Stebbing	815	E. W. Trebilcock	374
C. T. Taylor	785	I. D. Thomas	377
M. H. Hilliard	535	R. Louitt	228
P. Milne	520	G. R. Morris	189
I. R. Woodman	359	H. Jenkins	159
P. A. Barclay	444	M. A. Cadzow	155

SOUTH AUSTRALIA

F. W. Azlin	705	W. J. Clayton	442
G. H. Herden	695	M. J. Martin	305
R. J. Simmonds	603	D. Brasher	28

WESTERN AUSTRALIA

A. W. Clowes	953	Disqualified Log:	
C. J. Anderson	582	F. H. Price.	

TASMANIA

R. A. de Balfour	1131	C. Russell-Green	489
R. K. Emmett	615		

NATIONAL FIELD DAY CONTEST

The draft rules of this Contest having been ratified by Divisions, the rules will be as published in the September issue (p. 16) of "A.R."

It is hoped that the amended rules will entice more participants in this event. There are sections for h.f. and v.h.f. this time.

Remember the date: **Sunday, 25th January, 1959.** Have your portable equipment ready to enter this Contest.

BOOK REVIEW

V.H.F. HANDBOOK

By Orr and Johnston

This publication by Radio Publications, Wilton, Connecticut, U.S.A., and edited by two known W6 v.h.f. men, is a must for the serious Australian v.h.f. enthusiast.

It contains approximately 200 pages, liberally illustrated by photographs and drawings of v.h.f. equipment. There are twelve chapters, covering all aspects of v.h.f. technique.

With very few exceptions, the equipment described can be constructed from components available in Australia.

Australian price is 34/3, 1/9 postage. Our copy from Technical Book and Magazine Co., 295-299 Swanston St., Melbourne.

PREDICTION CHART, DEC. '58

Me.	E. AUSTRALIA	W. EUROPE	S.E.	Me.
0	2	4	8	10 12 14 16 18 20 22 24
45				GMT
28				
21				
14				
7				

Me.	E. AUSTRALIA	W. EUROPE	L.R.	Me.
0	2	4	8	10 12 14 16 18 20 22 24
45				
28				
21				
14				
7				

Me.	E. AUSTRALIA	MEDITERRANEAN	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	E. AUSTRALIA	N.W. U.S.A.	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	E. AUSTRALIA	N.E. U.S.A.	S.E.	Me.
0	2	4	8	10 12 14 16 18 20 22 24
45				
28				
21				
14				
7				

Me.	E. AUSTRALIA	N.E. U.S.A.	L.R.	Me.
0	2	4	8	10 12 14 16 18 20 22 24
45				
28				
21				
14				
7				

Me.	E. AUSTRALIA	CENTRAL AMERICA	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	E. AUSTRALIA	S. AFRICA	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	E. AUSTRALIA	FAR EAST	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	W. AUSTRALIA	W. EUROPE	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	W. AUSTRALIA	N.W. U.S.A.	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	W. AUSTRALIA	N.E. U.S.A.	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	W. AUSTRALIA	S. AFRICA	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

Me.	W. AUSTRALIA	FAR EAST	Me.
0	2	4	8 10 12 14 16 18 20 22 24
45			
28			
21			
14			
7			

AMATEUR CALL SIGNS

JULY, AUGUST, 1958

NEW CALL SIGNS

VK— New South Wales
2HV—G. E. Vessey, R.M.B. 160, Hume Highway, Bargo.
2AGP—E. A. Parker, Aust. Missionary College, Berrigalong.
2AOC—A. L. O'Donnell, 207 Burraneer Bay Rd., Caringbah.
2AOP—M. Robinson, 18 Coast Ave., Cronulla.
2ATZ—J. Zainuddin, 35 Laura St., Newtown.
2ZBM—J. G. Moon, 7 Cadboll St., Lismore.
2ZDA—R. J. Abernethy, R.A.A.F. Station, Cronulla.
2ZFM—B. C. Milne, 22 Robert St., Narrandera.
2ZJK—K. W. Jeffcoat, 180 Wellington St., Bondi.

Victoria
3TL—J. K. L. Matchett, 645 Riverdale Rd., Box Hill.
3VD—C. M. Barrett, Station: 29 Dryburgh St., West Melbourne; Postal: 300 King St., Melbourne.
3VT—J. V. Hudson, 46 Donald St., Highett.
3ADG—G. N. Kidson, 1 Myrtle Cr., Blackburn.
3AMK—L. L. McInnes, 142 Roberts St., Yarraville.
3APL—J. J. Loughlan, 4 Burns Court, Shepparton.
3AQM—Melbourne University, Electrical Engineering Dept., Carlton.
3ARO—S. C. P. Ford, St. Helena Rd., Greensborough.
3ZCL—C. K. Blake, Station: Henty Highway, 3 miles N.E. of Hopetoun; Postal: Box 162, Hopetoun.
3ZFM—R. B. Roudry, 323 Dorset Rd., Boronia.
3ZGA—L. A. Archetti, 20 Glen St., Werribee.
3ZGV—R. C. Adams, 10 Albert St., East Malvern.
3ZGL—R. F. Lloyd, 171 Cheddar Rd., West Koon Park.
3ZGR—H. R. W. Rolis, "Rowilla," Goomalibee, via Benalla.
3ZGS—W. J. Hill, 103 Westgarth St., Northcote.
3ZGX—K. J. Benson, 30 Bridge St., Hampton.
3ZGY—C. Y. Tham, 1517 Burke Rd., East Kew.
3ZGZ—P. N. Ferguson, Nichol's Point, via Mildura.

Queensland
4ZBV—J. P. Hayden, 151 Maygar St., Windsor.
4ZBW—B. M. McDonald, Base Squadron, R.A.A.F., Townsville.
South Australia
5BA—Brompton Boys' Radio Club, Cr. 3rd and West Sts., Brompton.
5BB—A. H. Schenna, 38 Stanley St., Crystal Brook.
5DG—D. P. Gyles, No. 8J, S.T.U., R.A.A.F., Edinburgh.
5GX—C. W. Wilde, 112 George St., Norward.
5VQ—J. E. Elliott, Cornwall St., Berri North.
5ZBB—R. J. Langdon, Cr. Railway Tee, and Trunham Rd., Marino Rocks.
5ZBV—C. A. Appleby, 7 Wolsley Tee, Woodlands Park.
5ZBY—J. H. Horvath, 69 Penang Ave., Edwards-town.
5ZCB—T. R. Frieth, 29 Telford St., Hillside.
5ZDC—R. W. Parker, 55 Sixth Ave., Ascot Park.

Western Australia
6DL—D. Laws, 18 Coleman Cres., Melville.
6XO—H. O. Winks, 40 Carey St., Katanning.
6XR—P. D. Roberts, 60 Park St., Katanning.
6ZBD—W. K. Holey, Gardiner St., Moora.
6ZBT—G. J. Cretsch, South Western Highway, Yaroop.
6ZBV—B. R. Fryer, Geraldton House, Marine Tce., Geraldton.
6ZBY—R. G. Glover, 38 Recreation Rd., Waroona.

Tasmania
7ZL—J. A. Nichols, 9 Cressy St., Newtown.
7ZAL—C. H. Hill, Richmond.
Territory of Papua and New Guinea
9RM—R. H. Murphy, Karanga Rd., Wan, New Guinea.
9RI—R. R. Hooper, Port Moresby, Papua.

CHANGES OF ADDRESS

VK— New South Wales
2GY—J. W. Olson, 154 Kareena Rd., South Miranda.
2HG—J. J. Mackel, 12 Hinkler Cres., Lane Cove.
3UT—J. A. Todd, 31 Simla Rd., Dennistons.
3UY—S. J. Burke, Lot 4, Patricia Ave., Charles-town.
2WF—W. A. D. Forman, 248 Warringah Rd., Bea Hill.
2XK—W. J. Wilson, 278 President Ave., Gymea.

2ZD—W. J. Leetch, 20 Edward St., Wagga.
2ZS—W. J. Smith, Dymond St., Bargo.
2ABW—E. G. Baker, Havendale Ave., Penshurst.
2ACG—A. Morris-Rees, Blacks Rd., Paxton, via Cessnock.
2ADB—A. A. Cheetham, 2 Bellevue Parade, Caringbah.
2ADY—C. McC. Hicks, "El Rancho," Forster.
2ADK—T. T. Hopgood, 885 Fisher Rd., Broken Hill.
2AGI—R. K. Phillips, 15 Gayling Rd., West Ryrie.
2AHY—E. K. Hayles, Dental Hospital, Chalmers St., Sydney.
2AJU—J. M. Moyle, Sun-Herald Bldg., Broadway.
2ALL—J. L. Leeds, Darling St., Menindee.
2APW—W. Wood, 69 Hume St., Goulburn.
2AQO—R. R. Edger, 69 Bobbin Head Rd., Turramurra.
2ASR—S. N. Graves, 61 Chester St., Merrylands.
2AXW—L. F. Wade (Lt./Col.), Marine Pde., Maroubra Beach.
2ZAR—R. A. Ridgely, 35 Bray St., Dundas.
2ZAU—K. Woodward, Curtis Place Plats., Moorehead St., Redfern.
2ZCM—S. B. McGregor, "Delamere," Ross St., Newport Beach.
2ZDB—A. J. Bowman, 107 Cronulla St., Cronulla.

Victoria
3BL—W. T. Lucas, 21 Endell Ave., East Preston.
3BP—D. J. Terrill, 113 Walker St., Ballarat.
3GP—R. C. Steele, 12 Roselea St., 8th. Caulfield.
3IZ—P. D. Williams, 3a Alma St., Maryborough.
3JS—B. J. Cole, Station: Lot 566 Wunnamurra Drive, East Kellor; Postal: C/o. P.O. Niddrie.
3TC—L. M. Renshaw, Lot 8, Merry St., East Ringwood.
3YD—R. W. M. Ross, 471 Buckley St., West Essendon.
3ABX—V. D. Bond, 8 Beauty Ave., Mt. Beauty.
3ACI—V. P. O'Brien, Station: 20 Tucker St., Horsham; Postal: P.O. Box 40, Horsham.
3AED—P. A. Delahanty, Lot 11, Alice St., Mt. Waverley.
3AIO—W. R. Ion, 21 Margate St., Beaumaris.
3AJN—J. Hill, 323 Auburn Rd., Hawthorn.
3APF—E. E. Flayd, Lot 4, Jordan Cr., Glen Waverley.
3APY—P. J. Dettmann, Station: 63 Duke St., Castlemaine; Postal: 45 Hutton St., Kyneton.
3ARY—R. E. Yeats, 38 Elizabeth St., Clayton.
3ASC—S. T. Clark, 58 Jensen Rd., East Preston.
3AZB—L. R. Burton, 11 Mount Pleasant Drive, Mt. Waverley.
3ZDK—K. J. McLachlan, 157 Church St., Brighton.
3ZDI—D. H. Goldworthy, Lot 2, Crawford Rd., Clarinda.

Queensland
4CD—C. McDonald, 76 Talford St., Rockhampton.
4KE—R. L. Shilton, 34 Naughton St., Rockhampton.
4NM—N. G. Mills, 68 Dover Rd., Margate.
4OH—H. T. Overend, Mossman St., Mossman.
4UK—F. R. O'Sullivan, 173 Walker St., Bundaberg.
4WI—Wireless Institute of Aust. (Qld. Division), C/o. A. H. Hinkler, 249 Buckland Rd., Worell Heights, Brisbane.
4WT—N. J. G. Whiting, Flat 4, 81 Eyre St., Nth. Wd. Townsville.
South Australia
5FM—H. N. Bowman, 10 Linden Ave., Hazelwood Park.
5MI—W. R. Nottage, 7 Sweet-water St., Seacombe Gardens.
5PK—T. H. Hainsworth, Otterley Av., Bridge-water.
Western Australia
6CK—C. Hayes, Box 45, Meekatharra.
6ZAH—L. E. Gooding, 41 Kennard St., South Perth.

Tasmania
7MZ—H. W. Hancock, 195 Upper Steele St., Devonport.
7FF—P. D. Frith, 131 Tarleton St., Devonport.

CANCELLED CALL SIGNS

VK— New South Wales
2GP—D. A. Page, 65 Hassans Walls Rd., Lithgow.
2IQ—A. J. E. Robertson, 108 Brook St., Coogee.
2AEZ—E. A. Marshell, 84 Railway St., Gosford.
2AIC—A. G. Svenson, R.A.A.F. Station, Dubbo.
2AYO—R. C. Puffer, R.A.A.F. Station, Dubbo.
2ZDD—R. H. Dell, C/o. S. Davidson, Cunnigam.
Victoria
3EA—E. Anderson, 130 Osborne St., Williamstown.
3EP—M. R. Robinson, 129 Hedderwick St., Essendon.
3FN—E. M. Ferguson, No. 2 Second Court, McGowan Ave., W. Preston.

3XA—D. V. Hope, 4 Elm St., Blackburn.
3ABC—W. H. R. Treloar, 52 The Right, Heidelberg.
3ADE—R. P. Everett, 55 Victoria St., Warragul.
3AEF—H. J. Bassi, 70 Moore St., Warragul.
3ASE—D. G. Anderson (Cpl.), R.A.A.F. Station, East Sale.
3ZEF—J. V. Hudson, 46 Donald St., Highett.
Queensland
4AH—A. L. T. Hadley, 12 Willis St., Annerley, Brisbane.
4BW—A. Couper, Lloyd St., Mareeba.
4ID—I. F. D'Arcy, 20 Bernard St., Brighton, Brisbane.

South Australia
5AG—A. G. Mulcahy, 25 Hart St., Semaphore.
5UM—R. L. Umbarger, U.S.A.F. Team 421, A.A. C/o. P.M., Alice Springs.
5WX—H. C. A. Wickett, R.A.A.F. Maintenance Section, C/o. D.C.A. Oodnadatta.
5ZGW—G. Wilde, 112 George St., Norwood.
5ZBE—R. B. Connor, 60 Matthews Ave., Seaton.
Western Australia
6SC—B. J. Schofield, C/o. 6AM Broadcasting Station, Northam.

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KEN MILLIN, VK7KA



HERE is a Station that looks as good as "store bought" and sounds as good as it looks. Ken is an automotive engineer, but he stopped short of using a motor to drive this truck-mounted rig in and out of its cabinet.

In the main unit are the control circuits, main and minor rectifiers, Class B 807 modulators, fully shielded 813 p.a. band-switched from 80 to 10 metres with switched aerial couplers.

A modified Gelsco exciter occupies the centre of the desk, flanked by two receivers: The AR7 has been "warmed up" with a low-noise front-end, ECH33 converter and series diode noise-limiter; and the left-hand unit, still growing, is based on a Gorler coil turret. The latter finds work for 16 valves, delivering a 3 Kc. pass-band in

* 6a Minallo Avenue, West Hobart, Tas.

the 100 Kc. second i.f. stage, with a Q multiplier and peaked audio.

Yes, there is a key and it gathers no dust!

Outside, Ken has a three-element 20-15 metre rotary, desk-controlled, with selsyns to point the way.

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L.T.U. FUND DONATIONS

The results of the above appeal to date are most encouraging, but we have still to achieve our target of £2,500 to enable us to send our delegate to the Geneva Conference in 1950. We had hoped to reach our target by December this year, but if this cannot be realised, donations after this date will still be very welcome—in fact, we will continue to take them as long as the member still subscribes. Many members have subscribed more than once—to those go our most grateful thanks, but this is no reason for those who haven't subscribed as yet to withhold their valued donation.

Please send YOUR donation in cheque, money order or postal notes to the under-mentioned address—

Federal Secretary,
Box 2611W, G.F.O.,
Melbourne, C.I.

The following list is current as at the 7th November:—

- £20/0/0
R. Pike, VK2ACU.
Trade Donation—Ducon Condensers.
- £12/3/0
S.W. Zone Convention at Canberra.
- £5/5/0
W.I.A. Hunter Branch N.S.W., VK2AWX; L. D. Bowie, VK3DU; Dr. W. J. Hart, N.S.W.
- £5/0/0
Canberra Radio Society, VK1ACI; Griffith Radio Club, VK2AGJ; R. G. Garrett, VK9RG.
- £3/5/0
W. H. R. Stitt, VK2WH.
- £2/3/0
R. H. Cunningham, VK3ML.
- £3/0/0
G. Kempton, VK2CI.
- £2/2/0
A. F. Elliott, VK3AEL; Dr. B. R. Meldrum, VK5EM.
- £2/0/0
G. E. Heinrichs, VK0KT; C. Cowan, VK2PFZ; P. Page, VK2APP; K. Woodward, VK2ZAU.
- £1/10/0
G. S. C. Semmens, VK3GS; K. A. Lawrie, VK3AK.
- £1/5/0
D. Robinson, N.S.W.
- £1/1/0
G. F. Cole, VK2DI; T. F. Pyke, VK2ZZ; C. A. Mackenzie, VK3ACM; N. McI. Cameron, VK3NC; A. Farkes, VK5MO; K. J. Lambeth, N.S.W.
- £1/0/0
J. Hazelwood, VK2AAT; A. Morales, VK2AEM; J. Edge, VK3AJO; L. Patison, VK3ALU; A. Barnes, VK3CE; A. Philbs, VK3EU; F. Adams, VK3ID; L. Sinclair, VK2MH; E. Arnold, VK2QV; W. Symons, VK2ZMS; A. Mather, VK3JZ; K. Oliver, N.S.W.; B. Valentine, N.S.W. H. Selman, VK3CM; T. Barnes, VK3TB; P. Evans, VK3OZ; B. Learmonth, VK3QM; D. G. Anderson (ex-VK3ASE).
- H. Tilse, VK4WQ.
F. Bentley, VK5MZ; K. Yates, VK5RP; C. Waterland, VK3WA; A. Martens, VK5MA; H. Vivian, VK3FP; J. Hassall, VK3JC; J. Vale, VK5NO; L. Brice, VK5OK; R. Kopp, VK5SX; H. Stacey, VK5XA; L. Werner, VK5XN; K. Ringer, S.A.
Berg, VK5ZAP; J. Moran, VK5JM; R. Coghlan, VK6RC.
G. Aschman, VK7GA; E. Burne, VK7GB; R. Kirby, VK7TR; R. Bulman, VK7LL.
- Under £1/0/0
W.I.A. N.S.W. Division, VK2WV (8/8); H. James, A.C.T. (10/-); E. Bennier, S.A. (10/-).

The progressive total receipts to 7th November are £1,867/17/3.

PERMITS GRANTED FOR TELEVISION EXPERIMENTS

- VK— New South Wales
2AKK/T—K. Whitmore, 27 Cecil St., Ryde.
2AWW/T—G. D. Wheaton, 783 Anzac Pde.
2AZN/T—J. L. Fogson, 57 Redgrave Rd., Normanhurst.
2ZCI/T—J. Dempsey, Farm 775, Yanco.
- Victoria
3AON/T—A. J. Henry, 1 Rosshire Rd., Newport.
3ATV/T—J. A. Hampel, Flat 4, 32 Hampton St., Hampton.
- South Australia
SMR/T—J. R. S. Coombe, Pomond Rd., Stirling West.
5ZCR/T—A. C. Rechner, 36 Payneham Rd., St. Peters.

THE

Frank P. O'Dwyer, VK3OF
130 Thomas Street,
Hampson, Vic.

Quite a month October, with consistent openings from JA to all mainland Divisions via both T.E. and F.2, with sporadic E openings up and down the eastern seaboard, through the longer hop VK4 to VK3, 5, 7, VK4 should have come into the picture by the time this is read, whilst the second week in Nov. should provide the first east-west openings either to ZL or VK4. Appetites are certainly being whetted for the Ross Hull Contest—many new stations will be taking part and competition should be keen. It is to be hoped that the JAs have been notified of the rules, otherwise the VK4 gang shall have a lot of explaining to do. Fortunately that will make the game easier for the other Divisions who still regard the JAs as DX and not as locals. Pity the rules were not published this year, reference only being made to the Oct. 1956 issue of "A.R." There are many "Z"s call chaps on the band now who were not licensed then and who have not the "A.R.s" to check on. Harder still for the country Hams now interested in 50 Mc. will have to wait for an Interstate sporadic E opening or write to their Divisional headquarters for the information.

South Africa comes into the picture with a letter from ZSSJK to Col VK7LZ. Here is his news: "The dope on 50 Mc. activity in Australia is most interesting and I have arranged with the Editor of Radio Shack, our Amateur magazine, to have the details published and I hope it will go to press before the start of your Ross Hull in December." The JAs are going in. South Africa we do not have the same opportunity of working so many contacts, if we could only have sporadic E openings all through the year then we would be happy. Most of the stations in South Africa are crystal controlled with a few changing over to the v.f.o. when they find others using the same frequency. The power used is mostly between 50 to 100 watts although we are applying for an increase in power. Like yourselves, we mostly operate between 50 and 51 Mc. with all the space left above for the space age. The antenna systems vary from the cubical gain to 3, 4 and 8 element beams with heights varying from 15 to 75 ft.

"Our best long distance contacts within the Union are between Durban and Capetown, and Durban and Windhoek (ZS3). We have found that the stations with the higher altitude seem to get the best results. On Friday, 17th October, ZS3G worked CT1CO, HB9BZ, VQ4EV and VQ5GF. Of these stations on this night, only VQ5GF could be heard in Durban. ZS3G, ZS6UR and ZS2JE work into the United States with the greatest ease when the band is open, but at the moment the JAs are in that direction. I was very interested to learn about your "Z" licence and I feel that it would be a good idea if we could introduce a similar licence in South Africa and we are going to put forward the suggestion to our headquarters Council, but I suppose that red tape will hold up the granting of such a licence."

"50 Mc. stations are active in all ZS call areas, ZS1 to 6, ZS2, VQ2, VQ4, VQ5 and CR7, whilst in VQ3 there is a listening station at present without a tx. Among the more active are ZS1B, ZS1D, ZS3G, ZS3UR, JH, GE, GO, PV, QV: ZS8UR, EB, ZK, AKI: ZE2JE, LJN, 2JK, KR, JB, JJK: VQ4AA, EV, CW, VQ5GF, ZS2WV and ZS2WV. I am sure that you and me, and replies on 28.335 Mc., can get a cross band contact here, the same with a few of the 4X4 stations who are not licensed to operate on 50 Mc."

"On Sunday mornings on a frequency of 50 and 50.649 Mc. you will find a relay of ZS1RQ and ZS8L at 0830 GMT. This is done by ZS8HV and ZS8JK with ear beams directed to VK4."

"The most active period for ZS operation is during the week-ends and during the evenings between 1700 and 2000 GMT. We have been hearing signals coming in from a north, north-east path round about 48.75 MHz. between the above hours and it has been during that period that we have worked into VQ4EV and HB9BZ. VQ4EV and F9 have been worked in Durban on c.w. but not at great strength. The VQ4 and VQ5 contacts were at 8 plus when they came in and we expect if the path

EXTENSION OF USE OF THE 50-54 Mc. BAND

As a result of an application from the Federal Executive of the W.I.A., the P.M.G. Department has agreed to the use of the 50-54 Mc. band by Australian Amateurs for an extended period to 31st December, 1959, conditional upon a relinquishment thereof on one month's notice if such action should prove necessary.

See Federal Notes for further information.

[The following two letters were received prior to the above announcement being made. As one is an explanation and the other requests further assistance, I have included both.—Editor.]

VK4 EXPLANATION

On first reading the cryptic comments on the retention of the 50 Mc. band by several of the VK3 V.h.f. Group in the November issue of "A.R." I was puzzled as to what, I am sure, other members of this Group, to take strong exception, but on consideration I feel it is incumbent upon me to comment further and to give some explanation to and on behalf of the VK4 V.h.f. Group.

We can hardly expect any more than antipathy from v.h.f. operators, for can it be truthfully said that at any time has the position which the Amateur is filling in reporting for I.G.Y. been comprehensively explained by an article in "A.R."? How many of us know what form this information is required to be prepared to ensure some standardisation throughout VK?

Also, how many of us are aware of what action has been proposed to seek an extension of Amateur operation on 50 Mc. and what is specifically required of us to assist in the preparation of such a case?

At this late hour there is no place for recriminations, but we feel that the strength of this case may have been lost through lack of co-ordination.

Nevertheless this Group has not been idle in its efforts to retain the 50 Mc. band as our first requests for information about some of the above lines were submitted through Divisional channels in March of

1958, and it is regrettable that neither these nor subsequent requests for advice were answered.

To continue our efforts, this Group, in the meantime, circulated all known 50 Mc. operators in VK4 and we are pleased to record that almost 100% response has been received on submission of logs. To those "defaulters" in VK4 who have received a further circular, even though their log has been received in Brisbane, my sincere apologies and I trust the appearance of your call below will record our grateful thanks.

Your log has been held here until some clarification of the position could be obtained. These logs are on hand: VK4s 4JO, 4KH, 4LK, 4HD, 4GG, 4WD, 4NG, 4ZAA, 4ZAK, 4ZAP, 4ZAT, 4ZAX, 4ZAZ, 4ZBD, 4ZBF, 4ZBH, 4ZBI, 4ZBJ, 4ZBL, 4ZDK, and 4ZOL.

To those readers who have not yet made the effort, I hope that this display of unselfish co-operation by Institute members and non-members alike all over VK4 (I must point out that some of these logs are books NOT a few sheets) will be an example and an inspiration to give a little of your time to assist this invaluable cause. The case to keep 50 Mc. requires your log urgently—please join us in helping you!

D. B. Hughes, VK4ZBD,
Chairman, VK4 V.h.f. Group.

50 Mc. BAND LOGS

F.E. has informed us that the P.M.G. Department is at present considering our application for an extension.

Processing of logs has begun; ZS3G is responsible for this processing and he is being assisted by ZCAT and Max Hillard.

We require many more logs to make the coverage as wide as possible. If you are able to send us a log on 50 Mc. DX, we would like to have your log. Please forward a signed copy of your log to VK3ZDG, I. McMillan, 1 Norfolk Rd., Surrey Hills, Vic.

We would also like to start a tape library of 50 Mc. DX. Anyone able to assist in this regard should contact ZS3G or the writer.

Some time ago the Group directed a letter to all Divisions requesting support for our programme. To date we have been favoured with replies from only two Divisions.

I. F. Berwick, VK3ALZ,
for the VK3 V.h.f. Group.

breaks to your part of the world it will be the same. A lot of us use the key to get the initial contact and then switch over to phone once the contact has been established.

"I have not told you anything about the receiving equipment. A lot of the fellows use the RF28 unit ahead of their rx's, some are using xtal converters as supplied with the NC300, others are using home-built xtal controlled converters and more recently some are using the war surplus rx R308. We have more listeners than active operators. I hope that

it is not too long before we can exchange greetings with fellow VKs and ZLs on 50 Mc."—Ian, ZS3JK.

Seems as though we are all alike, have the same habits, the same hopes, and the same desires, no matter where the 50 Mc. man is located. Read the VK3 notes for information regarding test t.v. transmission on 54.998 Mc. from north from Melbourne. The co-operation of northern Hams in reporting reception would be very welcome and an aid in the struggle for the retention of the 50 Mc. band.

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(Continued from Page 16)

I take this opportunity to wish everyone a Very Happy Christmas and a Most Successful New Year. My thanks go to the many correspondents from Divisional v.h.f. scribes through individual Hams to the listeners, only without whose aid and co-operation these notes would be practically non-existent.—F. O'Dwyer, 30F.

NEW SOUTH WALES

Well so nears the end of another year, and on behalf of the V.h.f. Committee and Group, a Very Merry Christmas to all.—2AWZ.

VICTORIA

QUEENSLAND

SOUTH AUSTRALIA

TASMANIA

Page 18

Amateur Radio, December, 1958

best wishes for the Festive Season



*We at A.W.V. take this opportunity to
extend to our many friends the sincerest of
best wishes for a*

Happy Christmas and a
Prosperous New Year



RADIOTRON

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47 York Street.

Sydney.

DX

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Only one contributor commented regarding the use of QSO path and time in these notes and that was in agreement with my own thoughts so unless a change of mind takes place with DXers we carry on as usual.

During the month I had visits from four of my contributors—YK6CX, 4DO, and WIA-12022, and was naturally pleased to see them, in the case of 3CX and 4EL, not for the first time though.

With the growth of the number of the VK boys who are becoming interested in collecting DX certificates, I think somewhere in the magazine, and this page is probably the right spot, being the DXers, the details of certificates should be given. I see some details of Awards, 3HJ sees some, and readers see some on cards they receive. So what do you think Mr. Editor? I have one or two ready now. Maybe it could go under the Awards section.

It is the policy of this journal to publish any new Awards that are issued as the details are supplied. Also any amendments or cancellations to existing Awards are treated similarly. At present the number of Awards in existence throughout the world is too great to list them all, even some each month. A comprehensive list of Awards appeared in the 1987 Australian Radio Amateur Club Book—Editor.]

My suggestion in May "Amateur Radio" re having something stable for the granting of Awards instead of the Country Rat Race, has been received well in many quarters overseas and here. September issue of "Short Wave Magazine" makes comment on it, to whom my suggestion was forwarded by VK2-4EL. They are going to comment in a later issue.

NEWS AND NOTES

On my latest QSL from Danny Well whilst at VP2VB, a rubber stamp reads "Attractive Amateur II. Commendable Certificates available to contributors upon specific request. Enclose 12 cents for Airmail, 6 cents regular." This is in addition to the rubber stamp which would be for financial assistance for the DX-pedition.

One of the outstanding DX boys, WENBK, has decided to pull the big switch and is selling everything but his QSLs. (Can't see that one.)

If you missed the recent DX-peditions to VQJ, another chance was given when VQ4ERR, working s.s.b. and c.w. only, will be back there in late December.

I chased VQ1CC on 21 Mc. the other morning, but think it is just one of the many 'phones that are turning up on the bands. He was not known by any of those watching the VQJ activity on 21 Mc. round 2100z.

ZD2JP should be heard on 21,220 Kc. soon, crystal controlled. He has been reported on 14 Mc. round 200z.

If you have not received a QSL from MZ-1AB for February to April 1988 QSOs, try another card to W8IDU, who operated the station for that period. The card was sent to him and he apparently lost it in the mail.

Z8GVL is expected to operate from the Seychelles shortly. Dates at present unknown. The Seychelles is an island group known to be active on phone: F0PFB, UG6AG, UG-6AL, UG6KAA, UG6KAC, UJ8AG, UJ8KAA, ULTB, ULTHA, ULTB, ULFA, UJ8GL, UM-8A, UN1, UN2, UN3, UN4, UN5, UN6, UN7, UN8, UN9, UN10, UN11, UN12, UN13, UN14, UN15, UN16, UN17, UN18, UN19, UN20, UN21, UN22, UN23, UN24, UN25, UN26, UN27, UN28, UN29, UN30, UN31, UN32, UN33, UN34, UN35, UN36, UN37, UN38, UN39, UN40, UN41, UN42, UN43, UN44, UN45, UN46, UN47, UN48, UN49, UN50, UN51, UN52, UN53, UN54, UN55, UN56, UN57, UN58, UN59, UN60, UN61, UN62, UN63, UN64, UN65, UN66, UN67, UN68, UN69, UN70, UN71, UN72, UN73, UN74, UN75, UN76, UN77, UN78, UN79, UN80, UN81, UN82, UN83, UN84, UN85, UN86, UN87, UN88, UN89, UN90, UN91, UN92, UN93, UN94, UN95, UN96, UN97, UN98, UN99, UN100.

CRADA is active on 21 Mc. round 19-2000z and CRADA on 1400z c.w. round 1500z on week-ends.

For those chasing W4QX, QOQPD is active on 21 Mc. phone 17-1800z week-ends.

If you have been chasing M1ZZ, don't waste your time as he is another who has moved.

EASBU is active on 14080 Kc. at 200z.

My previous comment regarding activity in Pakistan being forbidden was incorrect, as all is well there, but not so in Ceylon. It seems that only members of the Armed Forces can operate Amateur equipment.

* Call signs and prefixes worked.
z zero time—GMT.

MF1BBW is active on s.s.b. on 14 Mc. round 200z.

MF1DAA in a QSL, see his Lat. and Long. are 25° 10' N., 52° 52' E. That will help you to spot where Das Island is, as it is not on most maps.

It is anticipated that this will be given separate country status by A.R.R.L. as it is entirely separate from Bahrain, and under entirely independent jurisdiction.

Do not pass FFACG/GN by as he has been granted separate country status by the A.R.R.L. He is located in French Guinea.

V89MA can work 3.5 to 28 Mc. and is quite keen to try 7 Mc. Contact him on one of the higher bands, and if propagation conditions are suitable, he will be willing to try 7 and even 3.5 Mc. His only other country prior to our try on 7 Mc. was 25, as you are not, aware, he is located in the Maldiv Islands.

CE9AC is active from Easter Is. on 14 Mc. c.w.

E8A0C is active on 14 Mc. varying spots, round 0700z and E8A0B seems to follow a similar pattern.

SM5W/LA/P, LA2TD/P and LA2JE/P are all active from Splitsherg. Have heard SM-5WN being called round 0700z and 2000z. Another possibility is LA2CG/P reported on 28 Mc. c.w.

LX1HM is active on 28 Mc. and he is OK for a QSL.

OT7M was expected to show up on 14 Mc. s.s.b. on Nov. 16. Whether this was for a brief spell or not I do not know, but hope you s.s.b. boys found him.

V88A/P is expected to show up from Oman during November.

Z89G is active on 21 Mc. phone and has been heard very strongly in Sydney in the late afternoon.

There is quite an amount of confusion at the present time of the authenticity of the ZA calls being heard. There is supposed to be no legitimate operation from Albania, but calls heard have been ZAIAM, ZAB, IAB and ZC.

Corisia is now represented by F8CB/P. He has been heard here round 0700z and 2000z on 14 Mc. and 2000z on 21 Mc., but does not seem very interested in working all who line up for him. In no time he will be heard.

Kuwait is currently represented by 9K2AN, 9K2AT, 9K2AZ, 9K2AQ was G3FUU.

CR18AA is still anxiously awaiting arrival of a generator, his batteries having given out. The progress report on this that it has been placed on board ship in Hong Kong and the custody of CR8AI's XYL and is stored in her stateroom. She and CR8AI are on their way back to Portugal.

VP3PF is active on 7 Mc. and higher, his QTH being Grand Turks Is.

SV0WB is keeping Rhodes on the air with phone, but as U.S. noise is now active on 21 Mc. c.w. using the call of SV0WAE. Don't try any fast stuff on him. He is a very slow operator.

Turkey has now banned Amateur Radio. In fact it has been banned since 1953, so there is little doubt in view of information available to A.R.R.L., and others, that any QSOs with Turkey since 1953 were with illegal stations and will not be eligible for DXCC (A.R.R.L.) credits.

VPIEE is operating both 14 and 21 Mc. phone.

VQ3HD is ex-ZD6BX. Apparently many are still looking for cards from his ZD6 activity, so as VQ3HD is quite active on a number of bands you should be able to do something about it.

KAOJ and KAKIK work 14 Mc. on alternate nights. This is two times a week, not pass it by as an ordinary Kc. station as it earns separate country status.

Authenticity of 3W9FM is at present doubtful. It is believed to be putting out a signal into Europe to be certain.

Do not pass all PY7 stations by as another Brazilian, PTYAFN, PTYSC and PTYLR are active from the Fernando de Noronha. Increased activity from here is possible as the locals become more proficient with their English. All cards should be addressed Phil Hendrick, RCAF, Box 10, Fernand, AAFB, P.O. Box 10, AFB, Florida, and mark your envelope "attention PY7 . . ."

Activity on s.s.b. from T19, Cocos Islands is planned for March or April 1989 for about one week.

KR1EF is another that you should not pass by as he is located in French Guinea and by the rules of A.R.R.L. DXCC is eligible for credit.

Trucial Oman is represented currently by MF1DAA on 14 Mc. phone.

ZD6DT has been putting in a very strong signal to the East Coast round 2000z on 14 Mc. A change has been made in the Danny Well itinerary that that publishes last month. The new one is Montserrat (finished here), An-

DX CORRESPONDENCE **OPERATION OF VK0CC** **DURING 1959**

DX Editor "A.R." Dear OM,

I will be operating from Macquarie Island in 1959 (January to December) under the call sign of VK0CC. Operation will be on c.w., s.s.b., and s.b. Once a routine operating schedule has been established, I will endeavour to allot specific days for working DX stations and other days for VK working only. (I have already notified "QST" and "CQ" magazines that I will not QSL any stations which break in on 28 Mc. VK QSOs.) By such an arrangement it is hoped that the needs of all will be satisfied.

VK4FJ has been kind enough to offer his services as my QSL Manager—hence prompt QSL is ensured. I feel that I am very fortunate to have Roy's services.

QSLs will therefore be via VK4FJ under the following conditions:

- (a) QSL cards received via the Bureau will be replied to via the Bureau.
- (b) Any QSLs accompanied with I.R.C. coupons will be replied to by direct mail.
- (c) All cards MUST clearly indicate the time of the QSO in GMT to facilitate rapid log entry checking.
- (d) QSL will be on a card-for-card basis only.

It is hoped that I can find time to work a lot of Hams throughout the world especially those who require a VK0 s.s.b. QSO and QSL.

—Clive Cooke (VK0CC, ex-VK4CC).

gulla, Dominica, Guadeloupe, St. Vincent, Grenada, and due to arrive in Pacific in April. WQCTN is now QSL Manager for the following: VQ2B, VQ2C, VQ2D, VQ2E, VQ2F, VQ2G, VQ2H, VQ2I, VQ2J, VQ2K, VQ2L, VQ2M, VQ2N, VQ2O, VQ2P, VQ2Q, VQ2R, VQ2S, VQ2T, VQ2U, VQ2V, VQ2W, VQ2X, VQ2Y, VQ2Z, VQ3A, VQ3B, VQ3C, VQ3D, VQ3E, VQ3F, VQ3G, VQ3H, VQ3I, VQ3J, VQ3K, VQ3L, VQ3M, VQ3N, VQ3O, VQ3P, VQ3Q, VQ3R, VQ3S, VQ3T, VQ3U, VQ3V, VQ3W, VQ3X, VQ3Y, VQ3Z, VQ4A, VQ4B, VQ4C, VQ4D, VQ4E, VQ4F, VQ4G, VQ4H, VQ4I, VQ4J, VQ4K, VQ4L, VQ4M, VQ4N, VQ4O, VQ4P, VQ4Q, VQ4R, VQ4S, VQ4T, VQ4U, VQ4V, VQ4W, VQ4X, VQ4Y, VQ4Z, VQ5A, VQ5B, VQ5C, VQ5D, VQ5E, VQ5F, VQ5G, VQ5H, VQ5I, VQ5J, VQ5K, VQ5L, VQ5M, VQ5N, VQ5O, VQ5P, VQ5Q, VQ5R, VQ5S, VQ5T, VQ5U, VQ5V, VQ5W, VQ5X, VQ5Y, VQ5Z, VQ6A, VQ6B, VQ6C, VQ6D, VQ6E, VQ6F, VQ6G, VQ6H, VQ6I, VQ6J, VQ6K, VQ6L, VQ6M, VQ6N, VQ6O, VQ6P, VQ6Q, VQ6R, VQ6S, VQ6T, VQ6U, VQ6V, VQ6W, VQ6X, VQ6Y, VQ6Z, VQ7A, VQ7B, VQ7C, VQ7D, VQ7E, VQ7F, VQ7G, VQ7H, VQ7I, VQ7J, VQ7K, VQ7L, VQ7M, VQ7N, VQ7O, VQ7P, VQ7Q, VQ7R, VQ7S, VQ7T, VQ7U, VQ7V, VQ7W, VQ7X, VQ7Y, VQ7Z, VQ8A, VQ8B, VQ8C, VQ8D, 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VQ7I, VQ7J, VQ7K, VQ7L, VQ7M, VQ7N, VQ7O, VQ7P, VQ7Q, VQ7R, VQ7S, VQ7T, VQ7U, VQ7V, VQ7W, VQ7X, VQ7Y, VQ7Z, VQ8A, VQ8B, VQ8C, VQ8D, VQ8E, VQ8F, VQ8G, VQ8H, VQ8I, VQ8J, VQ8K, VQ8L, VQ8M, VQ8N, VQ8O, VQ8P, VQ8Q, VQ8R, VQ8S, VQ8T, VQ8U, VQ8V, VQ8W, VQ8X, VQ8Y, VQ8Z, VQ9A, VQ9B, VQ9C, VQ9D, VQ9E, VQ9F, VQ9G, VQ9H, VQ9I, VQ9J, VQ9K, VQ9L, VQ9M, VQ9N, VQ9O, VQ9P, VQ9Q, VQ9R, VQ9S, VQ9T, VQ9U, VQ9V, VQ9W, VQ9X, VQ9Y, VQ9Z, VQ0A, VQ0B, VQ0C, VQ0D, VQ0E, VQ0F, VQ0G, VQ0H, VQ0I, VQ0J, VQ0K, VQ0L, VQ0M, VQ0N, VQ0O, VQ0P, VQ0Q, VQ0R, VQ0S, VQ0T, VQ0U, VQ0V, VQ0W, VQ0X, VQ0Y, VQ0Z, VQ1A, VQ1B, VQ1C, VQ1D, VQ1E, VQ1F, VQ1G, VQ1H, VQ1I, VQ1J, VQ1K, VQ1L, VQ1M, VQ1N, VQ1O, VQ1P, VQ1Q, VQ1R, VQ1S, VQ1T, VQ1U, VQ1V, VQ1W, VQ1X, VQ1Y, VQ1Z, VQ2A, VQ2B, VQ2C, VQ2D, VQ2E, VQ2F, VQ2G, VQ2H, VQ2I, VQ2J, VQ2K, VQ2L, VQ2M, VQ2N, VQ2O, VQ2P, VQ2Q, VQ2R, VQ2S, VQ2T, VQ2U, VQ2V, VQ2W, VQ2X, VQ2Y, VQ2Z, VQ3A, VQ3B, VQ3C, VQ3D, VQ3E, VQ3F, VQ3G, VQ3H, VQ3I, VQ3J, VQ3K, VQ3L, VQ3M, VQ3N, VQ3O, VQ3P, VQ3Q, VQ3R, VQ3S, VQ3T, VQ3U, VQ3V, VQ3W, VQ3X, VQ3Y, VQ3Z, VQ4A, VQ4B, VQ4C, VQ4D, VQ4E, VQ4F, VQ4G, VQ4H, VQ4I, VQ4J, VQ4K, VQ4L, VQ4M, VQ4N, VQ4O, VQ4P, VQ4Q, VQ4R, VQ4S, VQ4T, VQ4U, VQ4V, VQ4W, VQ4X, VQ4Y, VQ4Z, VQ5A, VQ5B, VQ5C, VQ5D, VQ5E, VQ5F, VQ5G, VQ5H, VQ5I, VQ5J, VQ5K, VQ5L, VQ5M, VQ5N, VQ5O, VQ5P, VQ5Q, VQ5R, VQ5S, VQ5T, VQ5U, VQ5V, VQ5W, VQ5X, VQ5Y, VQ5Z, VQ6A, VQ6B, VQ6C, VQ6D, VQ6E, VQ6F, VQ6G, VQ6H, VQ6I, VQ6J, VQ6K, VQ6L, VQ6M, VQ6N, VQ6O, VQ6P, VQ6Q, VQ6R, VQ6S, VQ6T, VQ6U, VQ6V, VQ6W, VQ6X, VQ6Y, VQ6Z, VQ7A, VQ7B, VQ7C, VQ7D, VQ7E, VQ7F, VQ7G, VQ7H, VQ7I, VQ7J, VQ7K, VQ7L, VQ7M, VQ7N, VQ7O, VQ7P, VQ7Q, VQ7R, VQ7S, VQ7T, VQ7U, VQ7V, VQ7W, VQ7X, VQ7Y, VQ7Z, VQ8A, VQ8B, VQ8C, VQ8D, VQ8E, VQ8F, VQ8G, VQ8H, VQ8I, VQ8J, VQ8K, VQ8L, VQ8M, VQ8N, VQ8O, VQ8P, VQ8Q, VQ8R, VQ8S, VQ8T, VQ8U, VQ8V, VQ8W, VQ8X, VQ8Y, VQ8Z, VQ9A, VQ9B, VQ9C, VQ9D, VQ9E, VQ9F, VQ9G, VQ9H, VQ9I, VQ9J, VQ9K, VQ9L, VQ9M, VQ9N, VQ9O, VQ9P, VQ9Q, VQ9R, VQ9S, VQ9T, VQ9U, VQ9V, VQ9W, VQ9X, VQ9Y, VQ9Z, VQ0A, VQ0B, VQ0C, VQ0D, VQ0E, VQ0F, VQ0G, VQ0H, VQ0I, VQ0J, VQ0K, VQ0L, VQ0M, VQ0N, VQ0O, VQ0P, VQ0Q, VQ0R, VQ0S, VQ0T, VQ0U, VQ0V, VQ0W, VQ0X, VQ0Y, VQ0Z, VQ1A, VQ1B, VQ1C, VQ1D, VQ1E, VQ1F, VQ1G, VQ1H, VQ1I, VQ1J, VQ1K, VQ1L, VQ1M, VQ1N, VQ1O, VQ1P, VQ1Q, VQ1R, VQ1S, VQ1T, VQ1U, VQ1V, VQ1W, VQ1X, VQ1Y, VQ1Z, VQ2A, VQ2B, VQ2C, VQ2D, VQ2E, VQ2F, VQ2G, VQ2H, VQ2I, VQ2J, VQ2K, VQ2L, VQ2M, VQ2N, VQ2O, VQ2P, VQ2Q, VQ2R, VQ2S, VQ2T, VQ2U, VQ2V, VQ2W, VQ2X, VQ2Y, VQ2Z, VQ3A, VQ3B, VQ3C, VQ3D, VQ3E, VQ3F, VQ3G, VQ3H, VQ3I, VQ3J, VQ3K, VQ3L, VQ3M, VQ3N, VQ3O, VQ3P, VQ3Q, VQ3R, VQ3S, VQ3T, VQ3U, VQ3V, VQ3W, VQ3X, VQ3Y, VQ3Z, VQ4A, VQ4B, VQ4C, VQ4D, VQ4E, VQ4F, VQ4G, VQ4H, VQ4I, VQ4J, VQ4K, VQ4L, VQ4M, VQ4N, VQ4O, VQ4P, VQ4Q, VQ4R, VQ4S, VQ4T, VQ4U, VQ4V, VQ4W, VQ4X, VQ4Y, VQ4Z, VQ5A, VQ5B, VQ5C, VQ5D, VQ5E, VQ5F, VQ5G, VQ5H, VQ5I, VQ5J, VQ5K, VQ5L, VQ5M, VQ5N, VQ5O, VQ5P, VQ5Q, VQ5R, VQ5S, VQ5T, VQ5U, VQ5V, VQ5W, VQ5X, VQ5Y, VQ5Z, VQ6A, VQ6B, VQ6C, VQ6D, VQ6E, VQ6F, VQ6G, VQ6H, VQ6I, VQ6J, VQ6K, VQ6L, VQ6M, VQ6N, VQ6O, VQ6P, VQ6Q, VQ6R, VQ6S, VQ6T, VQ6U, VQ6V, VQ6W, VQ6X, VQ6Y, VQ6Z, VQ7A, VQ7B, VQ7C, VQ7D, VQ7E, VQ7F, VQ7G, VQ7H, VQ7I, VQ7J, VQ7K, VQ7L, VQ7M, VQ7N, VQ7O, VQ7P, VQ7Q, VQ7R, VQ7S, VQ7T, VQ7U, VQ7V, VQ7W, VQ7X, VQ7Y, VQ7Z, VQ8A, VQ8B, VQ8C, VQ8D, VQ8E, VQ8F, VQ8G, VQ8H, VQ8I, VQ8J, VQ8K, VQ8L, VQ8M, VQ8N, VQ8O, VQ8P, VQ8Q, VQ8R, VQ8S, VQ8T, VQ8U, VQ8V, VQ8W, VQ8X, VQ8Y, VQ8Z, VQ9A, VQ9B, VQ9C, VQ9D, VQ9E, VQ9F, VQ9G, VQ9H, VQ9I, VQ9J, VQ9K, VQ9L, VQ9M, VQ9N, VQ9O, VQ9P, VQ9Q, VQ9R, VQ9S, VQ9T, VQ9U, VQ9V, VQ9W, VQ9X, VQ9Y, VQ9Z, VQ0A, VQ0B, VQ0C, VQ0D, VQ0E, VQ0F, VQ0G, VQ0H, VQ0I, VQ0J, VQ0K, VQ0L, VQ0M, VQ0N, VQ0O, VQ0P, VQ0Q, VQ0R, VQ0S, VQ0T, VQ0U, VQ0V, VQ0W, VQ0X, VQ0Y, VQ0Z, VQ1A, VQ1B, VQ1C, VQ1D, VQ1E, VQ1F, VQ1G, VQ1H, VQ1I, VQ1J, VQ1K, VQ1L, VQ1M, VQ1N, VQ1O, VQ1P, VQ1Q, VQ1R, VQ1S, VQ1T, VQ1U, VQ1V, VQ1W, VQ1X, VQ1Y, VQ1Z, VQ2A, VQ2B, VQ2C, VQ2D, VQ2E, VQ2F, VQ2G, VQ2H, VQ2I, VQ2J, VQ2K, VQ2L, VQ2M, VQ2N, VQ2O, VQ2P, VQ2Q, VQ2R, VQ2S, VQ2T, VQ2U, VQ2V, VQ2W, VQ2X, VQ2Y, VQ2Z, VQ3A, VQ3B, VQ3C, VQ3D, VQ3E, VQ3F, VQ3G, VQ3H, VQ3I, VQ3J, VQ3K, VQ3L, VQ3M, VQ3N, VQ3O, VQ3P, VQ3Q, VQ3R, VQ3S, VQ3T, VQ3U, VQ3V, VQ3W, VQ3X, VQ3Y, VQ3Z, VQ4A, VQ4B, VQ4C, VQ4D, VQ4E, VQ4F, VQ4G, VQ4H, VQ4I, VQ4J, VQ4K, VQ4L, VQ4M, VQ4N, VQ4O, VQ4P, VQ4Q, VQ4R, VQ4S, VQ4T, VQ4U, VQ4V, VQ4W, VQ4X, VQ4Y, VQ4Z, VQ5A, VQ5B, VQ5C, VQ5D, VQ5E, VQ5F, VQ5G, VQ5H, VQ5I, VQ5J, VQ5K, VQ5L, VQ5M, VQ5N, VQ5O, VQ5P, VQ5Q, VQ5R, VQ5S, VQ5T, VQ5U, VQ5V, VQ5W, VQ5X, VQ5Y, VQ5Z, VQ6A, VQ6B, VQ6C, VQ6D, VQ6E, VQ6F, VQ6G, VQ6H, VQ6I, VQ6J, VQ6K, VQ6L, VQ6M, VQ6N, VQ6O, VQ6P, VQ6Q, VQ6R, VQ6S, VQ6T, VQ6U, VQ6V, VQ6W, VQ6X, VQ6Y, VQ6Z, VQ7A, VQ7B, VQ7C, VQ7D, VQ7E, VQ7F, VQ7G, VQ7H, VQ7I, VQ7J, VQ7K, VQ7L, VQ7M, VQ7N, VQ7O, VQ7P, VQ7Q, VQ7R, VQ7S, VQ7T, VQ7U, VQ7V, VQ7W, VQ7X, VQ7Y, VQ7Z, VQ8A, VQ8B, VQ8C, VQ8D, VQ8E, VQ8F, VQ8G, VQ8H, VQ8I, VQ8J, VQ8

VQGV8. SRX: ITICDS. CRBX. VSM1. XWAI. PQ8H. QFAP. QGSE. CEAG. ETXY. many 25. TLZ: UAIAE/4. U. 8AF. 4X4WF. LZKISZ. VQ2QG. VQ3HD. VQ9AC. UOSP. ETUS. VUJA. LAZC. BERSIM. CEAC. COZCO. CNMC. DLOB. EAW. ETXY. ETTO. FASS. FBUX. FQBA. FQAN. FUBA. HK3K. ISA. K4USK. KM5BL. KR9Y. KZIF. KZ5BL. K5AZ. LU. 5ABL. QGSE. QGSH. ORAY. PZ3AL. SV. 0WP. UDBAC. UDEAM. UHSKAA. VPBT. VP. 5DY. VPY. VQ2QG. VQ2MS. VQ3CF. VQ3HD. VQ3CF. VQ3KP. VQ4FM. VQ5GJ. V56AE. V58AC. V59AP. V59M. VU2AJ. XWAI. ZS. 6IX. 4X4WF. 9K2AT. WIA-L292: COZUS. ET. KY. FASVN. FBEX. FQ8A. KP4AZ. K56AG. QZSN. VQ1C. UAIAE/6. UDEAM. VQ5GJ. V58AC. ZC4WV.

14 Mc. Phone: 2AGH: ZD6DT. 2AMB: PZ. 2AQ. ZD6DT. ZS6ANE. HK4DP. LU2HAE. KR5LP. FK8AU. OADMA. VK0J. 3AOM: CT. LG. DJ3YL. DLIAU. F3YQ. GM3EST. HK4AA. HK7LX. HPSL. HCUV. KHRU. K3ERR/VO. T12P. T12W. XE2BM. VE. 4DO: K86. KR5LP. FK8AU. PY2CK. LU. 4DMG. SWP. ZD6DT. TLZ: XE2NF. CO. 20Z. XE1RE. HR2MC. CX3CO. CO2BL. CE3CC. KX6AF. HSIC. PZ3AQ. TIOZE. YNAC. YQ1C. OADMA. BERS15. ETUS. DFL. KR5LP. VKOTC. VQ2V. ZD6DT. WIA-L291: ZL5AE. XE3GJ. COZFP. P1J. EAC3Y. CE2CC. XE1RE. OKIKK. V1J. HP3FL. LU. 2WB. TG9AD. G1HVI. CE3H. WIA-L294: P1J. VKOTC. VK0KT. KX6BT. T12H. KH4EW. ZETVR. ZS8PG. PZ3AQ. CX3CO. Rod de Balfour. G. GM. ON. F. IKA. EA. DL. P1J. CNMIM. VQ2SE. ZD6DT. ZSU. ZS1G. BV. IUS. KR5LP. VKOTC. XW8AC. VK0AD. ZL. 1AB. VK9LE. 9K2AU. APFAD. XE2NF. TG. 8AL. COZUS. COZCS. CX3CO. CE3H. PY2CK. LU4DMG. and on s.s.b. KR6USA. KC. 4USK. KU4SG. KHAHQ.

21 Mc. Cw.: 2AMB: VQ2RG. VQ4FK. Z2R: URKAE. UQ2AG. VP6KL. PY2AC. OR. 4VN. CNKX. and many European 2QL: 9K2AN. ZD2GVS. COZUS. UR2BU. CX3AJ. PY2AC. KX6BT. CE3AG. VQ3HD. ZS1A. VQ2RG. CRTLU. ETXY. VQ4FK. VP1NW. THRC. VQ1C. ISA. YK1C. 4DO: UA. 0GF. KX6BT. TLZ: LA1VC/G. ZC3IF. GD.

4VH. ZD1FG. ZB2L. KX6BT. PY2AC. VQ. 2RG. KRMAK. XW8AH. ZS5JK. CX3BT. ZS6AT. WIA-L291: CRTLU. ELIK. HASBI. VP6KL. VP1BX. VP6CR. ZLSAC.

31 Mc. Phone: 2AMB: LUXSE. DJ. SWP: SV. 1AE. ZELIV. ZS5JK. VJ38S. JZ0PB. CO. 2ZS. TG9AD. VPSBL. TG9AL. HR2K. YN1CJ. HLKRT. SRX: VQ8QG. TLZ: VK. 0P. OABR. DU1FF. VP6KL. BV1US. KR6JF. JZ0PB. HLKRT. ZS2SY. ZLIARB/ ZC3. CE3HL. LUSAH. PY1BG. PY5AM. TG9HB. ZELIV. HK4AQ. OAAAO. CX3CC. ZS3FG. WIA-L292: COZS. HR2MC. JZ0PB. MP4BCC. YN1CJ. ZS8AJH. 4X4JU. Rod de Balfour. the pickings of his list being. UAIDZ. ZD1DC. ZS. VQ2BS. CNBK. CNBG. BAPU. FAFRC. MP4BCC. HLKRT. AP2AD. XZ2DY. KM. KX. KW. VY3BJ. HK4HW. HK3FP. ZP. 5JP. OABU. CEAB. PZ3AM. LUSAH. XQ. 8AG. YN1JR. YN1CJ. H8GA. HC1GC. HR2MC. T12RC. VP1NW. VP6L.

28 Mc.: 2QL: VQ2RG. QMSG. JA. CE. 3AG. UA6GF. G. V58MA. UA1H. KW5CE. KP4ANZ. KX5CV. KL1. 4DO: W. JA. UA6GF. K86. 4XJ. all in VK/ZL Contest: G. G1. GW. GM. ON. SM. DJ. OH. UR2BU. 4X4J. VQ2SB. HK7LX. TG9AD. V51GZ. KR. LUS. JA. CRTLU. ZELIV. ZS. W. VE. on phone and on c.w. additional were: OK. UAIDZ. S3PL. PA. CX3AJ. VU2AJ. VQ4FK. URAAG. OKILM. UBSUW. UA1RE. BWP. HSB. OH. G. CNBK. VU2A. MD. 4BCC. 4X4K. UR2BU. ZP5JP. LU8FP. FK8AU. ZS8L. TLZ: W. KHBYSR. WIA-L292: COZUS. K1MP. TELA. UA6LA. VE. FK8AS. FK8AU. G. G1. HK7LX. LU2W. 2OE. TG9AD. UAIDZ. ZS2DY. ZS5OA. Rod de Balfour. VE. JA. KA. PY2CK. HK7LX. CX. 3BH. ZP5JP. HK7AB. VSP1F. V51AF. V52DQ. DU1GF. FK8. 4X4K. 4X4HK. VP3AG. TG. 8AD. YN1JR. CN2AX. GP. KW5CB.

QSL SITUATION

QSLs to hand are: 2AGH: UC2CB. YQ3FT. UA1BE. FYTFF. 3ACD. HASBI. 2AMB: FSRT. 20W: 4X4GY. XW8AL. 2QL: UOSP. HC4M. ZS2TH. FSRT. GGCNC. PPVIB. ZCHK. FV. 2G. EABP. SRK. XE1RM. VPY. TLZ: V. 8MA. PZ1AP. VP2DC. BERS15: CRTDQ. FZ. 2TH. MP4BCK. UA6AZ. UH8BA. VK0AT. XU. 2TH. 4X4GY. FB8CD/C. LUXEK. UA3CC. URB5. UH8FP. VU2AJ. ZS5RO. WIA-L292: VSHU.

QTH OF POSSIBLE VALUE

SV0WAE—H. T. Cogburn, HM/1, USCGC Cour- tier, WAGRA10, APO23, New York. VP3BL—QSL via R.S.G.B. Station St. Georgia. 9K2AT—Box 23, Kuwait. F2CB/FC—G. Baris, Caserne Battesti, Ajac-clo, Corsica. ZDTSE—C/o. P.O. St. Helena.

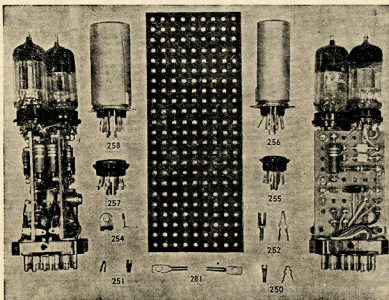
The next lot of notes will be the last from me as the guiding hand of this column. I originally took it from Hans for an estimated 12 months whilst he was away, but I find that with the growth of the VK2 QSL Bureau and these notes, both of which I am attempting to do to ensure all are happy, that the burden has become too heavy. Fortunately for me, without any extensive arm-twisting, John VK2ZR, has volunteered to fill the breach. He is well known on the DX bands, so I appeal to you to give him the support you have given me, so for the notes due end of December, please address them to John Pinnell, VK2ZR, 15 Summit Ave., Earlwood, N.S.W., and for those who have been ringing notes to me you can still do it by dialling UW 4248.

My thanks this month for their help go to W1KWX for the valuable DX Bulletin, 2AGH who is still adding new ones, at the moment being on 218, 2AMB, pleased with his GSTRT QSL, 20W now with 123 countries up his sleeve. 2KX who when I started this issue, like me, had no idea he would be commencing them in 1959. Many thanks John. 3AOM, I have no news of, other than his list, 4DO whose XYL wore her feet out window-shopping in Sydney, glad to see you both Hal. 4XJ who found 29 Mc. satisfactory for the VK/ZL Contest. 5BK once more for his QSP of SWP and SRX. Keep it up to John please Ray. 5WO who did not fade out on me this time, TLZ now a happy man with Zon. 35 tucked away at night. BERS15 who has had a spell at Nhill in November. What's it like for DX Eric? WIA-L294, WIA-L292 and WIA-L294 all active members of the S.w.I. VK2 Group: WIA-L2943 making his rx earn its keep, and last but not least, Rod de Balfour for the "Apple Isle" with 55 countries for the month.

As this will be the issue you will all see before the festive season, the next one being too late, may I wish you one and all the best of season's greetings and many new ones for 1959.—73.

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Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.
QSL Bureau: Box 1734, G.P.O., Sydney. Frank Hine, VK3QL, Manager; assisted by Allan Smith, VK2AIR.
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FEDERAL

EXTENSION OF USE OF 50-54 Mc. BAND
 As a result of an application from the Federal Executive of the W.I.A., the Postmaster-General's Government has agreed to the use of the 50-54 Mc. band by Australian Amateurs for an extended period to 31st December, 1959, conditional upon relinquishment thereof on one month's notice if such action should prove necessary.
 Use of this band was granted for the Geophysical Year which at the time of application was to officially end on 31st December, 1958. The current extension for the use of the band will permit another twelve months in which Amateurs can continue their activities in relation to geophysical data collecting.
 For economic reasons, the Department will not officially notify every licensed Amateur and have asked the W.I.A. that the provision be circulated through "Amateur Radio" and over W.I.A. Divisional Broadcasts.

CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.



ROSS HULL MEMORIAL V.H.F.:
 Dates: 1st Dec, 1958, to 31st Jan., 1959.
 Bands: All v.h.f. bands.
 Rules: Same as 1958-59.
 Special Award for greatest distance over 3,000 miles.

NATIONAL FIELD DAY:
 Date: Sunday, 25th January, 1959.
 Bands: (1) H.F. (2) V.H.F.
 Rules: As published in Sept. "A.R.", page 15.

B.E.R.U. C.W.:
 Dates: 6001 GMT, 17th Jan., to 2359 GMT, 15th Jan., 1959.
 Bands: 2.5, 7, 14, 21, and 28 Mc.
 Rules: As for 1958.

W.A.E.D.C.:
 Dates: C.W.—2100 GMT, 9th Jan., to 2100 GMT, 11th Jan., 1959.
 Bands: 2.5, 7, 14, 21, and 28 Mc.
 Note: Owing to lack of support last year to the Phone Section, this section has been deleted this year.

OK DX CONTEST:
 Date: December, 1958.
 Bands: All h.f. bands.

NOTES

Administrative Secretary: Mrs. May, C.O.R. House, 191 Queen St., Melbourne.
Meeting Night: First Wednesday of each month at the Radio School, Royal Melbourne Technical College.
Divisional Sub-Editor: V. M. Jones, VK3YE, 7 New St., Surrey Hills, E.10.

QSL Bureau: Inwards and Outwards—W.I.A., 191 Queen St., Melbourne, C.I. Vic.
Zone Correspondents: Western: W. J. Kinsella, VK3AKW, Magdala, Luback; South Western: W. Wines, 48 Cranley St., Warrnambool, and W. Zimmer, VK3AWZ, 70 Skene St., Newtown; Far North Western: M. Folie, VK3GZ, 101 Lemon Ave., Mildura; Midlands: R. Jonasson, VK3JND, Farnsworth St., Castlemeane; North Eastern: L. Ellison, VK3ALE, 72 Orr St., Shepparton; Eastern: J. Spark, VK3AJK, 20 Marshall Ave., Moie.

QUEENSLAND

President: John Pickles, VK4PF.
Secretary: W. J. Ratfer, VK4PR, Box 633J, G.P.O., Brisbane.
Meeting Night: Fourth Friday in each month at the Radio Service Union Rooms, Elizabeth Street, Brisbane.
Divisional Sub-Editor: A. Simpson, VK4ZAE, C. Baden Powell and White Sts., Everton Park.
QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda.

FEDERAL QSL BUREAU

Oscar Reyes Soas, Carmen No. 277, Vibora, Havana, Cuba, an s.w.l., is anxious to receive a letter from any s.w.l. in the world.
 David A. Helton, W6PME, of Jefferson City, Missouri, U.S.A., writes: "I would like to pass some information to you. It is of value to 80 metre men in the VK/ZL area. For the past few years there has been a South American h.c. station harmonic that rolls in here on 3512 Kc whenever conditions are favorable for any DX at all. I do not know if it can be heard in your area, but it serves as a good beacon station timing for the h.c. band and builds up to 57 in the mornings and takes out any VK or ZL who happens to choose that frequency. It frequently comes in and works through it. VK/ZL signals are best here on 80 metres during the September/March period from 1100 to 1300 GMT. It is CQing regularly on 14 Mc. c.w. and the operator, Maurice Frost, sends his best wishes to those VK operators who served with him in 456 Sqdn. R.A.F. during World War II. Maurice is now at 15 Northbourne St., Hayes Bromley, Kent, England.
 The Liga Dos Amadores Do Radio De Angola, Caixa Postal 484, Luanda, Angola, desire to hear from any VK station who has not received a QSL for an Angola contact. They will remedy the situation speedily they say.
 The V.E.R.O.N. (Netherlands Section of the I.A.R.U.) Traffic Bureau, Box 6011, The Hague, Netherlands, sends a long and hard letter issued by that body. Anyone interested may obtain the information from the VK Awards Manager to whom the list has been passed.
 Rob Curr, VK3RG, ex-VK1BG of Macquarie Island, dawdled through Melbourne during late October and early November. Rob has taken an appointment to be in the Guinea Fanning Service in a radio capacity and will be stationed at Port Moresby. Rob has moved all his gear including XYL and son and expects to be part of the scenery for many years. His call sign, which he expects to air prominently and frequently, will be VK9RO.
 Ray, Jones, VK3RJ, Manager.

FEDERAL AWARDS

DXCC—BRITISH PHOENIX ISLANDS
 Up to the present the British Phoenix Islands have been omitted from the DXCC List of Countries and this has been brought about by the fact that the islands have been misunderstanding of the actual conditions which exist there. The position is that Canton Island, the principal island in the Group, and the one that has caused the difficulty, is under the Joint

Zone Coordinates: Maryborough: R. J. Glassop, VK4BG, 80 North St., Maryborough; Townsville: R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

SOUTH AUSTRALIA

President: B. W. Austin, VK3CA.
Secretary: J. C. Haseldine, VK3JC, Box 1234K, G.P.O., Adelaide. Telephone: M 7851.
Meeting Night: Second Tuesday of each month at 717 Waymouth St., Adelaide.
Divisional Sub-Editor: E. C. Daw, VK5EF, P.O. Box 44, Gawler, S.A.
QSL Bureau: R. C. Luson, VK5RZ, 27 Belair Rd. West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: L. Roeger, VK6HR.
Secretary: J. R. Elms, VK6BE, Box N1002, G.P.O., Perth, W.A.
Meeting Night: Third Tuesday of month at Perth Tech. College Annex, Mounts Bay Rd.
Divisional Sub-Editor: J. R. Elms, VK6BE, 29 Central Road, Kalamunda.
QSL Bureau: Jim Rumble, VK6RU, Box F319, G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: P. E. L. Dunne, VK7PD.
Secretary: K. E. Millin, VK7KA, Box 371B, G.P.O., Hobart.
Meeting Night: First Wednesday of each month at W.I.A. Clubroom, 147 Liverpool St., Hobart.
Divisional Sub-Editor: W. W. Watson, VK7YI, 38 Brooklee Ave., Moonah.
QSL Bureau: J. Batchler, VK7JE, 39 Willowbank Ave., Launceston.
Zone Correspondent: North Western Zone—Terry Tong. Northern Zone—Ray Waldon.

PAPUA-NEW GUINEA

President: F. N. Nolan, VK9FN.
Secretary: G. A. Greville, WIA-L9004.
Divisional Sub-Editor: R. Clark, WIA-L9001, P.O. Box 204, Port Moresby.
QSL Bureau: D. S. Brown, VK9SB.

jurisdiction of Great Britain and the U.S.A. It is an international airport and personnel on this island are permitted to use the prefixes VR and KB6, depending upon their individual nationality.

Effective 1st November, 1958, therefore, the position is:

1. All credits already established for VRI and KB6 stations located on Canton Island will be credited to British Phoenix Group.
2. Credits already established for KB6 stations operating on the American Phoenix Group will be credited to that group.
3. All future credits for British Phoenix Is. and American Phoenix Is. will be treated as two distinct countries.

It should be noted that all claims for American Phoenix Is. cannot be based on contacts with stations operating on Canton Is. This is primarily in British Phoenix and will be thus credited.

Records will be amended to give credit to British Phoenix Is. where DXCC members have already submitted QSLs for contacts on Canton Island. Anyone not having credit for American Phoenix may now proceed to secure the credit.

DXCC COUNTRIES LIST FOR I.A.R.U. USE

As already indicated, a list of countries for DXCC use of I.A.R.U. members is being prepared for submission to the two members of the committee, viz. the R.S.G.B. and the A.R.R.L.
 Pending the completion of this list and its ultimate acceptance by the committee, there will be no further changes in the W.I.A. List of Countries.

APPLICATIONS FOR W.B.E. AWARD

Intending applicants are again reminded that all applications must be accompanied by a money order made out in favour of the R.S.G.B., payable in London, for the sum of seven shillings sterling currency.

—G. Weynton, VK3XU, Manager.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3DP—Jim Farrer, Oct. 25.

VK4HM—Harold J. Murphy.

Attendance at the October monthly meeting was the highest yet, some 150 members gathered to hear a lecture and demonstration by John Moyle on Stereophonic Sound. Business was cut short to allow time for this popular lecture. The main items were membership and a discussion resulting from correspondence to and from the Dept. of Education.

The President reported that the 1009th member was the Canberra Radio Society. The number was now over the 1000 mark, which included individual members of the Society. It was decided that a committee be formed to deal with the question of liaison with schools.

John Moyle covered the principles of recording and reproduction of stereo sound on discs and then demonstrated its effect by playing recordings designed to display the life-like reproduction of trains, motor cars, orchestras and opera. It was certainly effective, the thunder of trains in subways and shunting in goods yards brought startled faces to the doorway from a meeting held in another room. All agreed that the demonstration was so effective that the smell of smoke was the only effect lacking.

The Wireless Institute Civil Emergency Network held an extensive exercise on Nov. 4. The exercises, held in conjunction with the Civil Defence Organisation of N.S.W., took the form of a radio relay exercise between W.I.C.E.N. and C.D.O. throughout the State. The Civil Defence Organisation had requested their country controllers to be present in the exercise. W.I.C.E.N. had arranged for country Amateur stations to also invite any civic authority along to listen to the network in operation. The network was held on frequencies in the h.f. bands and two in the v.h.f. bands. The KXVI, two-watt station at Dural, was remotely controlled from a portable station located in the offices of the Civil Defence Organisation in the heart of the city.

The outward control link operated on the 5 metre band and was used to control and modulate the Dural transmitters operating on 3573 and 7050 Kc. simultaneously. The return link to C.D.O. headquarters was on 2 metres and returned the combined output from two receivers—one on each of the net frequencies—from Dural. The whole system was completely automatic in that the four transmitters and three receivers in use were all controlled by a single switch at C.D.O. headquarters.

Forty-one stations, stretching from the Queensland border to the Victorian border and into far west of the State, were in the hook-up. Some transmitted on 3373 and others on 7090 Kc, and despite a bad night with abnormally high static level, the exercise was a complete success.

The Director of the Civil Defence Organisation and members of his headquarters staff were able to speak from their office in Sydney to many of their representatives in country centres. In many of the country W.I.C.E.N. shacks, the local Mayor or his Deputy were able to hear for themselves the potential of the W.I.C.E.N. network in operation.

The exercise proved the effectiveness of remotely controlling the transmitters and receivers by means of v.h.f. links from a location where the noise level from neon signs, etc., would have made it impossible to receive any but the strongest signals from country stations. It also proved to many of our civil authorities the part W.I.C.E.N. can play in times of need.

Things have now quietened down considerably after a busy month of Annual Dinner, Field Day, monthly and social meetings. A distinguished visitor in the presence of Muriel 2A1A, called at 2ZL and 2AQR shacks as well as calling in at our monthly meeting; congratulations, boys, you behaved like real gentlemen—astounding what the presence of the opposite sex does.

The usual monthly meeting was quite an informal affair and the following enjoyed an excellent session of slides of New Zealand: 2A1A, 2A2A, 2SP, 2CN, 2ZDL, 2RU, 2ZMO, 2AB, 2AF, 2AG, 2AH, 2QB, 2A2, 2ZL, 2ZLW, 2ZLW, 2ZLW with associates. Southern Cross, 2A2R with Gray, Broad, Connors, Jefferson, Bergman, MacLachlan, Stobbs, Hall and last but not least, Mrs. Otty (Netta to you) who came along to keep an eye on Muriel and Bill. Dave ZLZB gave the Tergite Tiger for the first eighty slides which were of the north island. Dave ZLZB obliged with a description of the first eighty slides which were of the south island. With open eyes, the boys couldn't tell me it, but it had beautiful population.

All present enjoyed the viewing which were of excellent quality and the voice reproduction true and well enunciated. Thanks Wal and Dave for the opportunity of seeing so much of the shakey isles, the few extras at the end were by courtesy of Norm Otty and depicted shots of Dural, Blackalls and the 2ZL-2AQR duo on one of Bill's puff-puffs.

The business of the meeting was short and acting secretary Sutherland (live-wire Gordon) read the minutes and a resolution that the sum of five guineas be donated to that all-important I.T.U. Fund was passed without dissent. Apologies were received from 2XT (who stayed home to guard his JA souvenirs), 2XQ, 2ARV and Ron Roberts. A new associate, Robert Hall, was admitted to the fold.

In reporting on the dinner-cum-field day, Gordon thanked several helpers, but whilst a job like this cannot be run without those willing horses it was undeniable that the organising, time and keeping the XYLs pacified, rested on Gordon's shoulders and I can only repeat what has been said before—Thanks Gordon for a job well done.

Blacklacks field day information received too late to be included last month is as follows: Lionel 2CS assured the gang that the hidden tx was not sitting on top of Sugarloaf, but it may well have been for all the notice that was taken of it and as a consolation Lionel went from the summit to the ridiculous and placed the tx a few yards away from the start.

placed the tx a few yards away from the starting line. Could hear the sardonic laughter way out at Westy when he saw the hunters shooting out of the park in the pursuit of something left behind. The honour went to Varley 2SE, but did you actually track it down, Varley, or were you just limping home in disgust and well, there it was. Harold 2AHA was walking, the tx quit was way by Dave and Mrs. 2EZ, guess that freewheel 2ZDC took the coin. Mrs. Davis; nail driving, Mrs. Sparke; lucky number, Diane Davis; junior op., Ken Scott and the Lland's etc's.

Understand that there were 91 at the field day and who was it who heard Gordon tell some lads that he was looking for unlicensed t.v. sets with that 144 Mc. thing in his hand?

The social night at Bill 2XT's was also a film display of his sojourn in JA-land and much was the envy of the gear Bill brought back with him. Much amusement was derived from a couple of toys and it was no wonder that 2AQR could hardly speak next day. The secret is to cause the tonsils to oscillate. Had the pleasure of meeting Jack Hamilton, the voice of 2ASJ, for the first time. A visitor to the club that month was Allen and Georgie and 2AMY-Allen refused to play billiards with 2AQR, but Georgie challenged Bill, however there wasn't time for Bill to get a hiding.

The ex-boy from Bomaderry has been worked on 40 under the call sign of VR2DI and is enjoying himself over there.

Congratulations to "A.R." for their excellent October issue, pity the good work couldn't be continued.

Doubt if there will be a social affair at 2XT's this month due to the festive season, but listen to 2AWX for the latest news. The monthly meeting will take place at 8 p.m. on Dec. 12 at Tighes Hill University of Technology.

To all you chaps who take time off to read these notes, I wish you a Merry Xmas and a Prosperous New Year.

Formed in January of this year, the Blue Mountains Radio Club was an unusual organisation. There were no office-bearers, no constitution, and no fees to be paid. A purely social gathering of Mountains Amateurs was held at the home of one or the other of the members about a number of times, and as the members increased, it was decided to choose a central location for meetings and the R.S.L. Hall, Springwood, was selected. It was decided to make the club open to members from Amateurs, S.W.'s, and interested persons from the Blue Mountains, Emu Plains and surrounding areas.

In May this year, the Blue Mountains Club became extinct as such and became the Blue Mountains section of the W.I.A., N.S.W. Division. The following office-bearers were elected: President, Wal Cromie, 2MZ; Secretary, Bill Moore, 2HZ; Treasurer, Norm Durham, 2QA; Publicity Officer (and your scribe), Bob Lear 2ASZ.

Members who have attended the meetings to date include: Syd 2AVK, Bill 2ACP, Con 2LZ, Don 2ART, Keith 2ABK, Dave 2VW, 2HZ, 2MZ, 2JSS, 2QA, 2EX, 2NN, 2RM, Derek (Doc) Boyd, Malcolm Mobbe, John Snell, and quite a lengthy list of others.

Doings of the club include endeavours to set up Emergency Communications Networks and a regular club sked is held on 3575 Kc. at 1930 hrs. E.A.S.T. each Thursday evening. Experiments have been carried out using

5 and 2 mx walkie-talkies and base stations and are proceeding apace. We hope by the time summer heat brings on the danger period, we will be equipped to meet any contingency.

Meetings are held on the third Friday of every month and all interested are invited to attend.

On October 26, we held our first official field day at Catalina Park, Katoomba. It was attended by over 100 people and an interesting day was had by all (we hope). The day kicked off at 9 a.m. with Syd ZAVK struggling with an antiquated furnace which consumed wood and produced hot water all day in huge amounts for cups of tea. By the time the first event got under way at 10.30 the area was full of people parking cars, walking to Pittwater Street to shop, in the meter haphazardly.

Beams waving in the breeze, the hounds
chooed off in all directions, each following
his nose. However, it was 55 mins. later when
Dave 2AWZ unearthed the wily foxes John
and Wal, admiring the Three Sisters from Sub-
lime Point Lookout. Closely following was
Ron 2ZBG and a little later by Bob 2OA, who
at one stage found he could see the fox across
a several hundred feet deep gorge.

After lunch, the 2 mx boys swung into cooperation again and in a hotly contested Scramble, 2ZCF, 2AWZ and 2WJ each made 15 contacts, the cup being carried off by Dick 2ZCF, who, incidentally, carried home the prize of the day, a half-ton genemotor requiring the resources of Bunnerong Powerhouse to run it. We're looking out for a great big mobile signal from him now.

At the same time the 7 Mc. Scramble was also in operation and on a very quiet band. It was won by Jack ZALQ who carried off the cup. Second was Bob ASWZ and third Nev. ZDR.

Many of the ladies and harmonics vanished from OM's view on a conducted bus tour of the beauty spots and returned happy at 4 p.m. The hidden blindfold hunt and other competitions were going on meanwhile. Prizes were handed out to all at 4.30 p.m. and we hoped all went home vowing to come again next year.

See you all next month. TS—SASZ.

Big things took place at the last meeting night. Firstly the special general meeting considered the recommendations of Council regarding the last year's financial results, rising costs and secondly we took a field trip with our Federal Secretary, Doug 3DU, who has just returned to this fair land of ours.

The special meeting was quite a lively affair as a number of the fraternity had been objections to parting with the extra required.

Most of the points raised against the rise were very forcibly put, especially the thoughts about avenues for economy and all should be submitted for further consideration at a later date, and not left to languish. However, the fact remains that the incomings are not enough to meet the outgoings, and the situation is calling for attention.

After all the No candidates had had their say, there was very little time left for the Yes men to speak, and rather than delay the issue further, the motion was put to the vote. The vote was almost a unanimous Yes, indicating that the majority is prepared to pay the extra to partake of what the Institute has to offer. There was very little was also very much behind the increased cost of the Institute. It was for it. However, as the President pointed out, unity is strength and although we grizzle at the cost the Institute is steadily forging ahead and bringing us benefits which we are

No one likes to have to fork out more for his hobby, but apart from a few relatively minor economies which need to be followed up, there seems to be no alternative but to grin and bear it.

Nevertheless, there is a definite limit to which we can go with this sort of thing and we should be on our toes to keep things within bounds by "stopping the leaks" as several sneakers remarked.

Having disposed of this very necessary but distasteful subject, we passed on to the item which everyone had been waiting for: the illustrated lecture by our Federal Secretary on the I.T.U. conference.

As you know, Doug arranged to take the I.T.U. conference at Bad Godesburg into his itinerary for the express purpose of putting your case to the conference and gathering information about what our competition is doing. The forthcoming I.A.R.U. conference in Geneva. This is the I.T.U. conference we have heard so much about of late and is the one our people are most anxious to prepare the presentation of our case. The I.T.U. conference is fully subscribed. (Kearney)

On his way to the conference, Doug called on quite a number of Wireless Societies throughout the world in places like Ireland, England, France, Germany, Russia, India, Malaya and America. These visits were to exchange greetings and ideas. As a result of these efforts on Doug's part, Region 3, and particularly VK, should now be well on the map.

It may not be generally known that the W.I.A. was not in favour of sending a representative to the next I.T.U. conference originally owing to the cost. However, as all other zones favoured the move, the W.I.A. fell into line in true democratic fashion. Doug found that this move on our part was very much appreciated wherever he went.

Our Fed. Sec. certainly must have left his mark as he came home positively loaded with souvenirs and such like of the Societies he visited and each was produced for our inspection at the appropriate stage of the lecture. There were badges and cards, awards and equipment and a pair of penants for our President, to mention just a few. We even heard a message from Perry Williams, of the A.R.E.L., on tape.

In support of his remarks, Doug also showed us some superb slides of the places he visited in his very extensive travels. Quite a number of these places were well off the beaten track and were something very new to most of us arm-chair travellers. We travelled from Singapore to India, to Germany and then Russia, and with Doug's breezy commentary to guide us along the trip was really most enjoyable. It would be difficult to choose the most interesting place of them all, but to quite a few I feel the Russian scenes held a

keen appeal. I, for one, felt extreme surprise at the architectural beauty of the place. Most of our impressions of overseas countries and their people seem to be drawn from newspapers - I am afraid it is surprising how far off the beam we can get from these sources. That was the impression I gained from quite a number of the places seen and described.

Good old English still seems to be one of the principal means of communication wherever one goes. At the conference which Doug attended, the proceedings were translated into English, French and German, and most of the delegates were able to get by on these. I find it hard enough to struggle with one.

The places covered in the talk were so many and so varied and the time so short to absorb it all, that I feel a bit in a whirl.

Many thanks Doug for a very instructive and informative talk. The job you have done for us on this trip has laid solid foundations for the things to come, and we are extremely grateful. Our thanks also to Mrs. Bowie for donating so much of her husband's time to the cause. Your reward will probably come in heaven, Mrs. Bowie.

There were four visitors to the meeting, but missed their names in the rush. Sorry blokes. New members admitted were: Pull Members - J. M. Howden (3ZCH); Associates - T. W. Mitchell, I. L. Gornuch, J. P. Kell and A. K. Sanders.

Among the new members mentioned last month was Russell Rolls, whose call sign appeared incorrectly; his correct call is 3ZGR.

The December meeting will no doubt take the usual form of the Christmas meeting, so keep the night free.

WESTERN ZONE

Members of the Zone were all very sorry to hear that Jim Farrer, 3DP, of Deep Lead (via Stawell) had passed away on October 25. Our Annual Convention, which was held in Horsham on December 14, it will be a one-day affair and final arrangements will be made over the hook-ups held on Wednesday nights in the 80 and 90 bands. We will be pleased to welcome all visitors.

NORTH EASTERN ZONE

The Annual Convention of the Zone was held on Sunday, Nov. 2, in the auditorium of radio station 3SR, Shepparton. The meeting was presided over by Bruce 3AGG who had been elected on 4th fortnight ago to the position of Vice President. Secretary for the day was Les 3ALE who did a good job; pity he wasn't elected President. I may say that the meeting was very lively, "just like a meeting of the magazine committee," was one comment heard.

Various subjects were brought before the meeting and were debated at length, so much so that the chairman had to apply the gag to keep the meeting moving in the proper direction.

At the conclusion of the general business, the chairman called for a minute's silence in memory of Alan Rodger, VK3UL, who recently joined the ranks of "Silent Sam."

The meeting was adjourned to the foyer of 3SR where a swap-disposal session took place. The meeting had not reached its end, but had to get on the air without all the junk he had brought along. OK Les, I'll take it up some time with you if you can catch me.

Lunch time adjournment was to the local reserve, just down the road a little. Quite a few people with harmonics and XYLS to swell the number, enjoyed a picnic lunch. Others went home and were not seen again for the rest of the afternoon.

A visit to the transmitting station of Radio Australia took up most of the afternoon and the day closed with the Melbourne song saying "Au Revoir" and the members wended their weary ways homeward.

Among the missing was Alec 3AT who has been bitten by the photographic bug and is rarely heard on the air these days. Syd 3CI must have forgotten the date; I think should have reminded you when I was in last week. Syd. For those interested, Syd works the JA's consistently on six metres, but always has the time for local contacts on this band.

Andy 3FD must have thought he would be made zone correspondent because he had a beauty excuse! Tom 3TS and George 3GD were absent. I can't think up a good excuse for you two fellows, but please remember you were missed. To the rest I don't know or have failed to mention, you were all missed by your friends, your smile and your winks. Remember a strong Convention is a strong Zone. This Zone won a trophy for being the most progressive Zone in the world.

Zone hook-up, Monday nights at 8 on 80 metres. All shift workers excused.

EASTERN ZONE

We regret to learn that George 3ZCG cannot carry on as notes correspondent due to pressure of work and being absent from the zone for periods. We welcome back to the zone hook-up Graham 3OZ, David 3DY was in last week on mx mobile during October, however now inactive while building power supply for 813. Peter 3ZDP, 3ZCL, Stan 3ZL, and Stan 3ZCG still active on 2 and 6 mx, while Peter 3ZDP, George 3ZCG working VK4s, and JAs on 4. Hear Ron 3PR working 40 mx lately. E.W.V. Alf McKrell and Ken Robertson busy modifying recently-acquired Command receivers.

GEELONG AMATEUR RADIO CLUB

Activities in the club still continue at an all-time high. Membership is increasing steadily and to cope with this increase, a well arranged syllabus, more classes, and tutorial evenings cater for all enthusiasts.

Alf 3JPF gave an enlightening lecture on the subject of r.f. fault finding, stressing the need for simple test equipment, a thorough knowledge of circuitry and what to expect from various components which could be at fault.

We always welcome a visitor frombourne and George 3WJ lectured to us on the nationally important topic of civil defence. Many facets of this important subject were covered and members here are more enthused than before on maintenance of equipment and its constant use.

A tx hunt was held on 80 mx in the Geelong area one evening recently. Bob 3IC and K. Vriens took out the equipment. There were six cars taking part.

We were indeed honoured when the Federal President (Max Hull), George Glover and Reg

***** Greetings *****

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the following: —

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- (b) Happiness for ditto.
- (c) Good Fortune ditto ditto.

If you have (a) and (b), (c) is a pushover

★ ★
FOR 1959 — — A TOAST!

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Sub-Editors Mk. I, II, III, and IV.

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and

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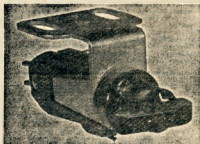
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Rex SDO was well received and indicated by its warmth that the programme which had been deferred for some time was worth waiting for.

The A.O.C.P. class is still in process of forming, so any of you who have not lined up, or given your intentions to Norm, should do so now to get into the class and not miss any lectures.

Joe SJO is still causing his friends and relatives some concern, and he appears a long way from being well. Joe has been in hospital, and hope the various medicine men can continue to help you.

During the month your scribe also went walkabout and visited some of the North and Western areas, so naturally a few shacks were entered. The first was at Laura where we were looked after by the local people, who were charming family arranged to our comfort.

Austin has quite a set-up there, and an ideal layout, the efficiency of which can be demonstrated with either QSL cards or go on the air and prove it. He did both, and during the evening kept a sked on 20 with his W friend Floyd, then on 10 to GEXL (yes, a lady too) and then to wind up got into a net on 80 mx with Doc SMD and Bram SAK. It would take too long to describe the SAK, but you have to have to describe the photo for publication some day, but it is well set up, 100 watts on 80 through to 10, a 3 el. wide-spaced, and a 3 el. narrow spaced, and a 3 el. for the rest. The v.t.o. is placed alongside the rx (an SX100) and the switching and netting controls placed in the right spot for quick action.

A nice set-up and he is to be congratulated on it all. Since our visit it has been learned that the severe storm caused the collapse of the tower and a lot of damage to the beam. Hope by now it is all restored to normal.

The next seen was Wal SDF, who first of all had a lovely little home-brewed plant, where a very interesting "look see" was done. Wally has his gear set up "table top" style and he has a very limiting set-up for him—and puts a lot of us to shame by having, and using, a home-brew rx! A nice piece of gear it is too and has all the gadgets for going, but the limiting set-up for him—and so on and a dial that really works. Not to be uncertain of anything a smart set-up of a heterodyne and monitor, and a 3 el. phone and c.w., which he has on all the time, completes a picture of how a station should be run. Incidentally, Mrs. SDF makes a nice cake and she has a very good hospitality.

Tried to talk that old fox George SKJ into getting something going, he has not been on the beam since last month. Sprague, who has his QTH at the A.B.C. set-up at Port Lincoln includes a magnificent tower about 35 ft. high, and not in use, would be a sifter for some of the v.h.f. set-ups. Once again, so far efforts in that direction not successful.

Pat SLT of course could not be overlooked, although we did not get around to his home QTH. He is doing the job now and keeping him happy on 20.

I nearly forgot, remember the bowls trophies Wal SDF mentioned once? Right, I saw them, touched them, and after an examination of a profile of the operator consider him eligible and awarded the trophies to him.

On the return, Ern SEN came under the microscope, when he left Jan in charge and we went to the home-brewed plant. There, too, the antenna farm is dominated by a tower topped at 80 ft. with a long vagi on 2, at 60 ft. a 3 el. on 10, then 10 ft. down a 3 el. on 10, and a 3 el. on 20. As a point of interest, all these sky squitters as well as an end fed flat top for 40 and 80 ft. and a 3 el. on 20 ft. for 20 ft. and 40 ft. him in to co-ex someone, he won't have a bar of it, wanting to nurse all those precious dB's, and not lose a fraction of them.

Inside the control of the v.t.o. are the ARS, 807s on 6, and 829B on 2, with rx's on bands 14 and 16 home-brewed double conversion A4 taking place in the v.t.o. and a beam type who does a good well at a rx job. A fancy converter covering 10, 6, 2 and 1 ahead of either rx completes that side of it with a pandaputer for the control of the v.t.o. and a relay for checking and a "watch" on the bands.

A very enthusiastic fellow who has made a name for himself in control work and has a gear set up in his QTH rig in an open where QRM is at a low level.

Thanks to you boys generally for courtesies

News from Burnie SWC indicates the Club not in their new quarters yet, and for the present operating from Burnie's QTH. GSKJ who has been in the club will recall spent some time with us last year and got his VKS call the day before departure for U.K. He is in QZ QZ 1000 and 1005 contacts on c.w. What about you Gordon?

Tom STL now at Renmark and not at Alice Springs chaps, he is still getting calls from DX operators looking for that Northern Territory card. A VKR would be good Tom and clear that card.

When in QSO from Wal SDF with SAB and Doc SMD, got mixed up and switched Bram to VKS, of course, he thought that Ray SAK was also on the hook, reckons I would make a good Ham Steady on, Ray, might catch up with you some day, anyway will check with Doc that point.

George S08 heard recently checking a new small mobile rig with Les SAK, and during the testing Jack SJL joined in that link up with Les after a 15-year gap! Were they excited, don't know if this displays some grey-beard tendencies or just what, but speaks well for continuity of the hobby, not just illustration perhaps of "grey bearding". Les recently heard a 5 x 9 signal on 10 so he netted carefully, but with his beam on the appropriate spot and then when clear called, and called, and called, but no reply. Reason? Found his tx wasn't on 10 anyway. Bad luck Les, that line must be a real worry.

Geoff SRI has started up his series gated modulator, sounds OK too, carrier control not too bad, but the 5 meters is a bit of a trick. Bob SRG has taken a 1000 appointment in N.G. so look out for a new VKS some day. Tiger for punishment Bob, last time it was ice in VKS that night, a bit of a shock.

Des SDK, now YDK, has settled in to his new location and likes it. He is looking for VKS contacts on c.w. Gordon will be busy, but he is looking for a 1000 appointment. Keith SKH and Ken SKJ, who operating from Norton Summit and Black Springs respectively, put in fine rigs at Gaven.

Len S0C was recently done over by Gordon SXU who found Len putting more stones in 500 more places, but reckons he has about the best interest in the hobby, not just ill then Len built it there with that idea in mind, so he was not surprised to hear someone say it was ideal.

TASMANIA

NORTH-WESTERN ZONE

Christmas is fast approaching and yet another year will soon be behind us and his achievements or otherwise to look back on. Naturally we will look forward to better and brighter things in the new year, and a bigger and better DX, and all the rest, particularly interesting to "died in the wool" Hans.

Last month the first of our instructional nights was held in our usual meeting place and for a "first night" it was a huge success and a real credit to the organizers. A lot more chaps rolled up and were treated firstly to a good lecture on the many and varied uses of the trusty g.d.o., by George TXL, who also gave practical demonstrations where possible. Truly a versatile instrument the same g.d.o.

Peter TFF gave a very vivid demonstration with an ingenious piece of test equipment from which you can hear the electrons and gremlins racing round the circuits. He produced quite healthy sparks between leads and demonstrated magnetic attraction by inducing a piece of wire to move.

Lee TKC portable worked Harold TMZ on 288 Mc. and both interestingly explained their transceiver. Only 2 watts input and they have worked distance of 40 miles. One of the some of the boys are contemplating similar rigs; even Athol TLR stated that he would like to make a 2000 watt sale. Once again, a v.h.f. tx hunt in the not too distant future.

ROY TRN brought along a block of h.f. converters and Max Ives said a few words about an indulating 1000 meter which covers from 10 to 100 meters with the one tapped coil. Harold looks like becoming our new auctioneer as he did a good job of disposing of the few articles which were put up for sale. Once again, a goodly supper was enjoyed by all present and our President moved a vote of thanks for our Secretary's XYL who did a lone job in preparation for the night.

Chassis for the mobile rigs for the Burnie Fire Brigade were on display, finished in nice grey enamel, and the Burnie boys have had a working bee and produced them recently. Shouldn't be long now before the Burnie Fire Brigade are working "mobile".

Another 9000 watt rig was shown recently in December, details will be discussed at the next meeting, so best the d.f. gear is given a run, chaps, with perhaps a few improved innovations. The time for time for finding can be reduced don't you?

The best bit of news for this time is that our local VKS has been successful in obtaining our A.O.C.P. and we

are both filling in the necessary forms as fast as possible. It is to be hoped that we can find a photographer game enough to take our picture.

Trust some of you will answer our pleading calls of CQ some time in the near future.

NORTHERN ZONE

Well chaps, here we are again, all recognised with our new President Geoff (Associate) and Treasurer cum Secretary, Max TCA. After completing rather an extraordinary lack of notes from the North, I now find myself (Associate Ray) with the job of writing them.

—so here goes with my first effort. The new thing about our meetings at each member's home, taken in turn, on the second Friday of every month at 8 o'clock or thereabouts. The weather is not too much of a problem, a phere to a ball in the city. Everyone gets a turn as host and as mentioned by a voice from the back row, we all get a chance to spy on our secret projects.

At the October meeting, which was held at the home of Max TCA, there was a good muster of members, also a very welcome visitor in the person of George TGC, who made about a 60-mile round trip to be present.

Max's very neat station and t.v. set were the centre of attraction, and the associates. Guess we will have to press on with the studies and get that A.O.C.P. fellows!

The weather was unkind—no temperature in versions, etc. and no v.h.f. probably just as well as I reckon it may have held up the meeting quite a lot. At the close of the meeting a very nice supper was provided by Max's XYL.

Incidentally, I believe that the higher frequencies are receiving a bit of a bang from the fox hounds on 144 megs. and commence again in the north, so get all those beams and super regens. out of mothballs for a while.

Len T8Q and Col T1Z are burning the midnight oil working on 288 meg. rigs in preparation for a first contact with VK3 land. How about it, boys?

The next meeting will be held at my place at 11 Myne Street, Invermay on Nov. 14, so please turn up. Once fellows, everyone welcome.—Ray Waldon.

PAPUA-NEW GUINEA

There has been more activity on the bands here this month as conditions have greatly improved in this region. Bill S9W has been chasing the DX and has now got a new signal out a nice signal, too. Nice work, Bill! Bill works 14 and 21 Mc. Doug S9B has been up on 20 and 10 lately and has got a few results. This band really opened up early in the week. Doug has only been a short time, and he only has twelve contacts confirmed, but he has made a few more. He is now settling in to the new QTH he will put up a beam. I believe it's to be another quad. There are beginning to be popular.

Frank S9N has been on the bands again and working DX quite recently. How's the new AR88 performing Frank? Bob S Roger (ah choo) Roger, is very active on 21 meg., hope he will be able to get a few more. If you are putting a much better signal into Boroko with the ground plane; we can read that. Bill S9W is back from leave and has been on the air and putting a good signal into Moresby. Welcome home, Bill.

Another member in the name of Pat SCP, who is living in Kavenga, a hearty welcome to the Division, Pat, and hope your stay will be very pleasant. Our Secretary will be able to join in the Sunday morning hook-up. Bob S9B did not get to Rabaul as was anticipated, he was recalled by his employer. Another S9B on the bands, and a long spell and has been heard working a little DX. How about calling in on Sunday nights, boys? Bill S9W is back from leave and has been on the air and putting a good signal into Moresby. Welcome home, Bill.

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